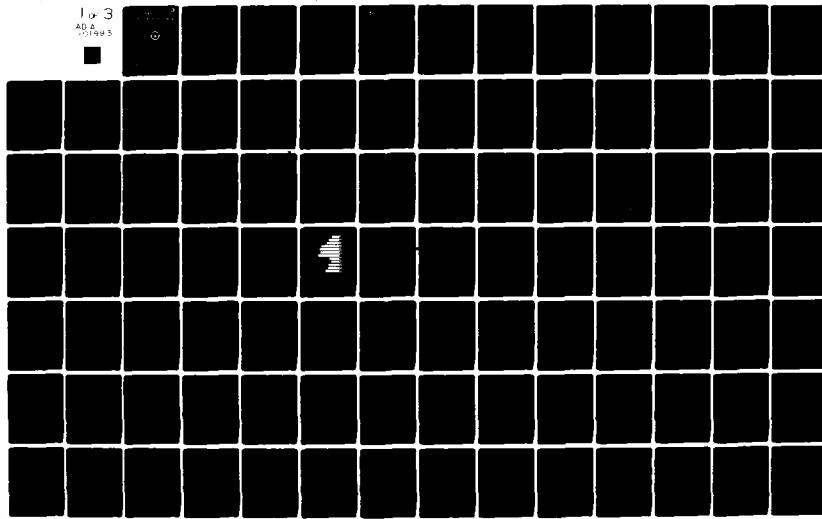AD-A101 993

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TRAINING MANAGEMENT

STUDY

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20. ABSTRACT (Continue on reverse side if necessary and identify by block number) The study examines military training as a total system comprised of four major subsystems: Recruiting and AFEES, Recruit Training, Specialized Skill Training, and Unit Training. Internal and external influences were examined in terms of their affect on the system as a whole. The major recommendation concerns the establishment of an organization to improve the overall management of the training system. Specific training operations are also addressed, and recommendations presented.

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Collective Training
Computer Adaptive Testing
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COMBAT EFFECTIVE

TRAINING MANAGEMENT

STUDY

JULY 1979

Prepared for
Assistant Secretary of Defense (MRA&L)

The Pentagon, Room 3E808
Washington, DC 20301

D

30 June 1979

MEMORANDUM FOR THE ASSISTANT SECRETARY OF DEFENSE (MRA&L)

SUBJECT: Combat Effective Training Management Study

Reference is made to the President's memorandum for the Secretary of Defense, dated 20 Sep 1977, subject: Defense Reorganization; and the ASD/MRA&L memorandum for the Deputy Secretary of Defense, dated 29 Aug 1978, subject: Proposed Study on the Management of DOD Training. These memoranda resulted in the establishment of the Combat Effective Training Management Study.

The Study Group undertook an examination of military training as a total system comprised of three major subsystems: Recruit Training, Specialized Skill Training, and Unit Training. I later determined that a fourth subsystem, Recruiting and AFEES, should be added. The planning, programming, and budgeting system was also reviewed as it affected the military training system. Each of the training subsystems were examined, problem areas noted, and recommendations made.

The entire focus of the study was on the training of the military services and the management of that training at all levels, to include the Department of Defense, so as to produce a combat effective armed force. It is my belief that implementation of the recommendations found in this report will not only improve military training and training management but will have positive long-term effects.

I accept complete responsibility for the report. However, the "real work" was accomplished by the professional and dedicated officers from all four services who were the Study Group members. They were superb. The assistance of all the services and your staff contributed immeasurably to the report.

DONALD E. ROSENBLUM
Major General   USA
Study Director

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COMBAT EFFECTIVE TRAINING MANAGEMENT
(CETRM)

CHAPTER 1
INTRODUCTION

1-1 PURPOSE. The purpose of the Combat Effective
Training Management (CETRM) study is to examine train-
ing, and the management of training; and to provide
recommendations to the Secretary of Defense which will
ensure that training management throughout the Depart-
ment of Defense is appropriately organized, and operated
in an efficient manner, so as to contribute to the com-
bat effectiveness of the four military services.

1-2 BACKGROUND. The CETRM study has its origin in a
Presidential Memorandum for the Secretary of Defense on
the subject of "Defense Reorganization". In this memo-
randum, the President requested that the Secretary ini-
tiate ".... a searching, organizational review .... so
as to produce an unconstrained examination of alterna-
tive reforms in organization, management, and decision
processes in the Department of Defense." The Assistant
Secretary of Defense (MRA&L) translated this Presiden-
tial guidance into a proposed study of the management
of the Department of Defense's training establishment.
The study concept was approved in August of 1978 by the
Deputy Secretary of Defense. The Study Group was
formed, effective 17 November 1978, with representation
from all four services. Study Group members included
officers with extensive training and operational command
experience. It was organized as shown in Appendix A.

As the result of guidance from the Study Director, ef-
forts were focused on combat effectiveness as the final
criterion of effective training and training manage-
ment. This is a broader and more comprehensive per-
spective than traditionally has been taken. Previous
studies on the subject normally have focused on that
training which was provided or performed prior to an
individual's assignment to an operational unit. In
these studies, training effectiveness, not combat ef-
fectiveness, was generally the issue. Training effec-
tiveness was defined as the degree to which the train-
ing output of centers and institutions met their own

internal criteria for success; such as graduation from
a course of instruction, completion of a program, etc.
Combat effectiveness as a criterion requires a differ-
ent conceptual and methodological thought process in the
determination of whether or not the training output of
schools (as effective as it might be) actually does lead
to a greater degree of combat effectiveness in the oper-
ational combat and combat support units in the field.

The division between training and operations tends to
obscure the responsibility for achieving combat effec-
tiveness between two or more commands within the mili-
tary services. Often, those commands responsible for
providing combat effective units are not in control of
the required resources; and those commands in control of
the resources are not held responsible for the combat
effectiveness of the units. By using combat effective-
ness, rather than training output, as the focal point,
the Study Group has been able to review a training es-
tablishment as having a single overriding mission (the
preparation and maintenance of combat effective units)
rather than an establishment made up of a number of
agencies having overlapping, interrelated, but not
identical missions. This perspective has led to the
analysis, conclusions, and recommendations presented in
this report.

Within the Department of Defense, training has become a
vast and expensive undertaking. In FY 1980 the services
plan to accomplish more than 230,000 student man years
of training (approximately one and a quarter million
students) in almost 7,000 civilian and military training
courses, ranging in duration from a few days on a mili-
tary installation to up to three years at a civilian
university. Seventy-five percent of individual military
training in schools is accession oriented; that is,
training which is designed to turn a civilian into a
productive service member (officer or enlisted) with a
usable military skill. For FY 1980, a military and ci-
vilian staff of approximately 182,000 persons is pro-
grammed to support the individual training effort. It
has been established that the manpower equivalent of all
those engaged in or supporting Department of Defense
sponsored training requirements represents eighteen per-
cent of all personnel on a yearly basis. The above fig-
ures do <u>not</u> include the following categories of train-
ing:

1-2

a. Unit training conducted in operational units.

b. On-the-job training conducted in operational units.

c. Reserve training, except for that formal training provided by the active training establishment of the military services for individual reserve component members who are on active duty for training purposes.

Valid statistical data on all inclusive training and personnel staffing costs are difficult to obtain and correlate, since the military services do not use a consistent collecting and reporting system. As an example, at their recruit training centers, the Army and Air Force assign a pro rata share of medical costs to their training budget. The Navy assigns all recruit training medical costs to their operations and maintenance (O&M) budget. The Navy provides all medical services for the Marine Corps. Thus, the Marine recruit training budget does not reflect medical costs either. The Department of Defense has reported to Congress that, for FY 1978, its institutional training costs were $5.9 billion. The Government Accounting Office disputed these figures, stating that the cost was actually $6.1 billion; a discrepancy of $200 million. Funding for individual training in FY 1980 is budgeted for approximately $7.6 billion.

As vast as these figures are, they do not include the extensive training efforts which occur within the operational units. A Rand Corporation study has estimated that true training costs are approximately $9 billion per year, when on-the-job training expenses are considered. Unit training costs (which are huge) are not computed accurately by any of the military services, are seldom addressed, and are not included in any data available to the Study Group. Most of these unit training costs are funded by the O&M appropriation. All of this activity, which is an important part of day-to-day operations in the four services, is presumably designed to enhance unit combat effectiveness and readiness. How well the training establishments of the respective services are organized and managed to provide both entry level and post entry level training that does, in fact, produce combat effective units is the focus of the CETRM study.

1-3 SCOPE. The CETRM study examines the current organizational structure and roles of the training and training management establishment within the Department of Defense, and recommends a structure to provide improved management. Accession, recruit basic training, specialized skill training, unit training (individual and collective), and training management functions within the military services are analyzed in terms of the following:

    a.   Determination of training objectives.

    b.   Development of training programs.

    c.   Conduct of training.

    d.   Evaluation and control.

Specific problem areas in the operation of the training systems of the services are discussed and recommendations presented.

1-4 CONSTRAINTS. The following subject areas were specifically excluded from the CETRM study:

    a.   The selection and initial flight training of pilots.

    b.   Officer acquisition, training, and professional development education; except where such training is in the field of training development, management, or supervision.

    c.   Reserve and National Guard training, except where such training is directly related to active component training.

    d.   The training of civilians employed by the Department of Defense.

    e.   The Foreign Military Training program.

1-5 METHODOLOGY. A flow chart of the CETRM study methodology is shown in Appendix E. The purpose, scope, and study constraints were defined and refined as previously described (paragraphs 1-1, 1-3, and 1-4). Then the following activities were undertaken:

a. In conjunction with the consulting firm of McFann, Gray and Associates, information requirements appropriate to the purpose, scope, and constraints of the study were identified. These requirements were evaluated to insure that the information existed and was reasonably obtainable. In some cases, information requirements were revised when it was determined that they were not practical.

b. The consultants then assisted the Study Group in the development and validation of two field information requests which were based on the information requirements. The information requests (Training Operations and Training Management) were designed to gather relevant information on the organization, management, and output of the training establishments of the four services. After extensive coordination within the services, revision, and final approval; the information requests were dispatched to all levels in the training establishment and to selected operational units. A synopsis of each of the service responses for the training operations information request is included in Appendix C. A list of information request respondees is included as Appendix D.

c. A comprehensive collection and site visit plan was developed and executed in four phases concurrently.

(1) Previously conducted studies, documents, policy statements, directives, regulations, etc., were researched and appropriate information extracted for the use of the Study Group. A bibliography is included as Appendix E.

(2) Orientation trips were made to the major training headquarters to give the Study Group an overview of training philosophy and operations in the other services' training establishments.

(3) Visits were made to the Department of Defense, and training managers in the National Capital Area to determine their formal and informal roles and functions within the training management establishment.

(4) Visits were made to Training Centers/ Schools and to operational units down to Company/ Squadron/Task Element level, to determine their formal

and informal roles and functions within the training operations establishment. A list of installations/activities visited by the Study Group is included as Appendix F.

d. In conjunction with the consultants, all acquired information was sorted and compiled by service, and then examined to determine whether it satisfied the previously identified information requirements. Where necessary, additional research, trips, and visits were undertaken to acquire the required information.

e. The acquired information was then independently analyzed by the Study Group and compared to determine the relative strengths and weaknesses of the training management processes and systems of the four military services.

f. Based on this analysis, observations and recommendations were made and the report was written by the Study Group and the consultants. The structure of the report is as follows. The remainder of Chapter One presents an overview of the training structure and requirements, and a partial listing of training accomplishments. Chapter Two discusses the operation of the training system within the four services. It points out problems and makes recommendations for their solution. Chapter Three discusses the management implications of training. It includes a discussion of the total system management philosophy, required components of a viable management organization, current management organizations, and unresolved management issues. It then presents recommendations and organizational considerations designed to deal with these issues.

1-6 TRAINING OVERVIEW.

a. Roles and Functions. The current national defense policy as set forth by the Secretary of Defense in his annual report to Congress for FY 1980 may be paraphrased as follows: It is appropriate to maintain general purpose combat forces with the capability to successfully halt a major attack (with Europe as the most likely locale), while more or less simultaneously halting a lesser attack elsewhere in the world. He further stipulates that the services must be prepared to fight immediately with their forward deployed forces,

rapidly reinforce with a powerful central reserve from
the continental United States (CONUS), and maintain un-
restricted access by air and sea to the theaters of op-
erations. In order to support this national defense
policy; and to ensure the security of the United States,
its possessions, and areas vital to its national inter-
ests, each of the four services has been assigned speci-
fied functions and roles. These functions are delin-
eated in DOD Directive 5100.1, a synopsis of which fol-
lows:

(1) The Army will organize, train, and equip
forces for the conduct of prompt and sustained combat
operations on land; specifically to defeat enemy land
forces, and to seize, occupy, and defend land areas.

(2) The Navy will organize, train, and equip
forces for the conduct of prompt and sustained combat
operations at sea; specifically to destroy enemy naval
forces, suppress enemy sea commerce, and to protect vi-
tal sea lines of communications.

(3) The Marine Corps will organize, train,
and equip forces to seize and defend advanced naval
bases, to conduct land and amphibious operations in sup-
port of naval campaigns, and to provide close air sup-
port for land and amphibious operations. These func-
tions do not contemplate the creation of a second land
Army.

(4) The Air Force will organize, train, and
equip forces for the conduct of prompt and sustained
combat operations in the air; specifically to defend
the United States against air attack, to gain and main-
tain general air supremacy, and to defeat enemy air
forces.

In order to accomplish these functions, and to success-
fully carry out the national defense policy, the four
services must maintain their forces in a continuous
state of combat effectiveness. In his FY 1980 annual
report to the Congress, Secretary Brown states that "the
overriding defense manpower objective is to increase the
combat effectiveness of the Armed Forces."

b. Combat Effectiveness. For the purpose of this
study, combat effectiveness is defined as the ability of

a military unit to successfully execute its primary combat function in the projected operational environment. Combat effectiveness is a function of the following three interrelated variables, and is degraded if the development or execution of any of them is unsound.

      (1) Force Structure is the composition (personnel and equipment), by number and type of unit, of existing, planned, or programmed forces. The development of a force structure is an iterative process; which interfaces with the statutory service roles and missions, existing doctrine, and analysis of the enemy threat.

      (2) Doctrine is the fundamental set of principles by which the military forces, or elements thereof, guide their actions in support of national objectives. Doctrine evolves as the threat changes, new equipment is introduced, and the force structure is modified.

      (3) Training provides the catalyst which bonds together a force structure capable of meeting the threat with sound strategic and tactical doctrine. It produces military units which are capable of effectively implementing that doctrine in support of the national defense policy.

To determine the combat effectiveness of a military unit requires a measurement device. In wartime, the ultimate measurement device is the combat situation. The achievement to be measured is the ability of the unit to engage in combat and win. In peacetime, the measurement device becomes subjective and abstract. This situation poses unique questions for commanders and training managers: What are the training requirements to produce combat effective units? Lacking the ultimate measurement device, how is combat effectiveness validly measured?

      c. Training requirements. Because each of the four services have separate and distinct functions, their force structure and doctrine differ. These differences impact on the services' training requirements, and lead to divergent training organizations and practices. The four services train differently because they have different functions, capabilities and requirements.

(1) Army. With its land combat function, the Army must recruit and train large numbers of combat arms personnel. Its force structure is designed to "equip the man". The Army's occupational areas generally do not require the type of technical skills which are readily marketable in the private sector. In recent years, however, there has been a trend towards acquisition of increasingly complex equipment requiring greater technical skills. The Army has the greatest number of potential recruits in the general population. Quantifiable measures of the Army's direct combat skills are poorly defined in a peacetime environment. Its training requirements to meet combat effectiveness objectives include institutional and unit (individual and collective) training, and maneuvers and exercises. The Army trains for deployment but seldom deploys. It maintains permanent operational forces stationed overseas which must sustain a high degree of readiness, yet they may not stand down to undergo a training cycle. Army organizational philosophy facilitates the decentralization of control over its maneuver elements (battalions). Decentralization of training tends to place the greatest responsibility for training execution on the battalion officers and NCOs.

(2) Navy. With its sea combat function, the Navy must also recruit and train large numbers of personnel. Its force structure is designed to "man the equipment". Many of the Navy's occupational areas require the type of technical skills which are readily marketable in the private sector. The Navy has a smaller number of potential recruits in the general population than does the Army. Quantifiable measures of the Navy's technical skills are generally well defined in a peacetime environment. Its training requirements to meet combat effectiveness objectives also include institutional and unit training. The Navy spends considerable time deployed at sea. It undergoes a dedicated training cycle, and a series of readiness examinations in preparation for these deployments. Navy organizational philosophy facilitates the decentralization of control over the training of its maneuver elements (ships). Decentralization of training tends to place the greatest responsibility for training execution on the ships' officers and NCOs.

(3) Marine Corps. With its combined land and air function, and the smallest organization of the four

services, the Marine Corps recruits the smallest number of personnel. Its force structure is designed both to "equip the man" and to "man the equipment". Many of the Marine Corps occupational areas, particularly those associated with its air wings, require the type of technical skills which are readily marketable in the private sector. The Marine Corps has a smaller number of potential recruits in the general population than does either the Army or Navy. Quantifiable measures of Marine Corps ground combat skills are poorly defined, while their technical skills are well defined in a peacetime environment. Marine Corps training requirements to meet combat effectiveness objectives are complicated by the fact that they use land warfare tactics; employ much of the same equipment as the Army; use Air Force and Navy tactics because they operate similar aircraft in the same environment; employ amphibious warfare doctrine; and use Navy sea tactical employment doctrine. They depend heavily on the school systems of the other services for training in many skill areas. The Marine Corps maintains permanent operational forces stationed overseas in the same manner as the Army, and also deploys units with the fleet. Marine Corps organizational philosophy facilitates the decentralization of control over its maneuver elements (battalions and squadrons). Decentralization of training tends to place the greatest responsibility for training execution on the battalion officers and NCOs.

   (4) <u>Air Force</u>. With its air combat function, the Air Force recruits less personnel than either the Army or the Navy. Its force structure is designed to "man the equipment". Most of the Air Force's occupational areas require the type of technical skills which are readily marketable in the private sector. The Air Force has the smallest number of potential recruits in the general population. Quantifiable measures of the Air Force's technical skills are well defined in a peacetime environment. Its training requirements to meet combat effectiveness objectives generally include individual and collective training of the officer corps to conduct combat operations in an aerospace environment, and individual technical training of its enlisted force to support combat operations. The Air Force also maintains permanent operational forces stationed overseas. However, since most air operations are conducted by individual crews or flights, most of its training is on an individual or collective basis, with little

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requirement for a unit to stand down for training. Air Force organizational philosophy facilitates the centralization of control over its maneuver elements (aircraft and flights). Centralization of training tends to place the greatest responsibility for training execution at higher levels than the squadron officers and NCOs.

1-7 SYSTEMS APPROACH TO TRAINING. Even though their force structure and doctrine are different, training within the four services may be defined in terms of a common systemic approach whose ultimate goal is combat effective military units. Under the auspices of the Interservice Training Review Organization (ITRO), the services have developed common procedures for Instructional Systems Development (ISD). ISD is not a training system. It may be broadly defined as a method of designing training to optimize total systems effectiveness. The Army graphically describes the concept of total systems effectiveness with the following formula:

$$E= f(WPT)$$

where the combat effectiveness (E) of any weapon (system) is a function of the capability of the weapon (W), the proficiency (P) of the individual or crew manning it, and the tactics or techniques (T) of the leader who employs the weapon and crew in action. The formula is equally applicable to such diverse weapons systems as tanks, aircraft, and ships.

ISD is a rigorous, iterative process which analyzes the three functions (WP&T), and develops training programs to insure combat effectiveness (E). It consists of five major components as follows:

    a. Analysis

    b. Design

    c. Development

    d. Implementation

    e. Control

An expanded discussion of advantages and disadvantages, state of implementation, and problem areas associated with ISD will be found in Chapter two.

1-8 TRAINING CATEGORIES. The Military Manpower Training Report (MMTR) defines six categories of individual training, some of which do not apply to all services. Other terms associated with training categories are not officially defined, or are defined differently within the services. For the purposes of this study, categories of training conducted by the four services are defined as follows:

a. Recruit Training includes the basic introductory physical conditioning, military, and indoctrination training given to all new volunteers in each of the services. It is designed to provide an orderly transition from civilian to military life, motivate the volunteer to be a productive service member, and instill required attitude changes.

b. Specialized Skill Training (SST) is that formal school training which provides the trainee with the required level of skill in his or her military specialty to meet specific job requirements. SST normally follows recruit training and includes the Army Advanced Individual Training (AIT), the Navy Initial Entry Level (Apprentice or "A" school) training, the Marine Corps Initial Entry Skill training, and the Air Force Technical Training.

c. Unit Training includes all training conducted in an operational unit. It consists of individual and collective training.

(1) Individual training prepares an individual to perform specified duties and tasks associated with his or her military specialty and duty position.

(2) Collective training prepares a group of individuals (tank/aircrews, squads, platoons, companies, ships, squadrons, etc.) to perform those duties and tasks required of the group as a whole.

1-9 TRAINING ACCOMPLISHMENTS. Military training today is conducted in an atmosphere of severe fiscal, personnel, sociological, environmental, and other constraints. However, the study group has come to the conclusion that, in spite of the many problems facing them, the services are training very well. This is not to say that there are no shortcomings and deficiencies in training and in the management of training. There are

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major problem areas in all four services, and at the OSD
level as well. Some of these problems are correctable
within the service concerned. Others are considered
virtually unsolvable given the current management struc-
ture within the services. These major problem areas are
addressed in Chapter Two. However, while investigating
those things that are wrong with training, one should
not lose sight of what is right with it. Following is
a partial listing of the innovative and forward looking
training practices and procedures which have been
adopted by the services in recent years.

    a. Army. The Army recently has reorganized its
General Staff to consolidate the supervision and manage-
ment of recruit, specialized skill, and unit training
with training support in one directorate under DCSOPS.
The One Station Unit Training (OSUT) concept has been
widely implemented and is under evaluation for further
expansion and refinement. The purposes of OSUT are to
shorten the time spent in the training base, reduce
training costs, and to improve the overall quality of
entry level training through more concentrated courses
of instruction. Soldiers Manuals and Skill Qualifica-
tion Tests (SQT) have been developed for almost all
Military Occupational Specialties (MOS). The Soldiers
Manual is a valuable aid to soldiers and commanders in
the conduct of training on specific tasks required in
the performance of their duties. The SQT provides
trainers and training managers with a standardized, ob-
jective evaluation of the soldier's ability to correctly
perform mission essential tasks under exacting condi-
tions according to specified standards. Using per-
formance oriented criteria, the emphasis is on learning
by doing. In the area of unit training, the Army has
developed the Battalion Training Management System
(BTMS), and the Army Training and Evaluation Program
(ARTEP). BTMS aids the commander in planning and
managing unit training. ARTEP aids in the conduct of
training by providing a measurable goal and a standard-
ized, objective evaluation of the state of unit train-
ing. Multi-echelon training philosophy integrates this
individual and collective training in units. It is
based on continuous evaluation of feedback and revision
of training objectives according to specific unit train-
ing needs. Selected CONUS units are improving their
combat capability by environmental training in jungle,
arctic, and desert conditions. REFORGER and other major

exercises provide realistic training in the execution of mobilization and deployment contingencies. The Army also has made great strides in the introduction of new training technology with simulators, gaming techniques, and computer assisted map exercises. A comprehensive noncommissioned officer education system has been established to prepare enlisted personnel to assume greater levels of responsibility. Planning is underway for the National Training Center (NTC) at Fort Irwin, CA, which will provide required facilities and space to conduct maneuver training and evaluation of the combat effectiveness of battalion sized units in a realistic live fire environment.

   b. Navy. The Navy has recognized numerous training problem areas throughout the fleet that require high-level attention. Specific CNO objectives in the manpower and training areas have been established for next year. The DCNO for Manpower is reorganizing into a Manpower, Personnel, and Training (MPT) organization (OP-01). Several parts of the CNET organization are being restructured. Other improvements to the Navy MPT process include the Leadership, Management, Education, and Training (LMET) course of instruction for all officers and most senior enlisted personnel leaving a shore billet enroute to a sea billet. The OP-01 Training *Resource Model* (TRM) will assist MPT managers to properly plan, program, and budget training resources more efficiently than at present. The recent (March 1978) implementation of the HARDMAN/MODMAN Study will allow MPT issues to be considered early enough in the equipment acquisition process to produce adequate numbers of trained sailors with the proper skill when new equipment is delivered. Several other programs which significantly impact on training have also recently been implemented. A dedicated training cycle is conducted to bring a unit to a high degree of proficiency prior to deployment. Upon completion of this training cycle, the unit (squadron or ship) undergoes an operational readiness evaluation/inspection (ORE/I) and is formally certified as qualified to perform its operational mission. Navy assignment personnel are given detailed distribution guidance which allows them to efficiently schedule required individual training prior to arrival at a permanent unit. The Navy has developed Rate Training Manuals, and is upgrading its Personnel Qualification Standards (PQS) system. Rate Training Manuals delineate

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skills and standards required for advancement. The PQS
system provides trainers and training managers with a
standardized, objective program for training, evalua-
tion, and certification at a specific watch or aircrew
station.

    c. Marine Corps. The Marine Corps has placed both
recruiting and recruit training responsibilities under a
single commander on each coast. The Marine Corps Re-
cruit Depot (MCRD) commander is directly responsible to
the Commandant for both accession and training of re-
cruits. The Marine Corps Communications and Electronics
School (MCCES) is developing an advanced educational
technique which will allow an individualized, multi-path
skill training program. The concept is based on an
analysis of a recruit's interests and abilities. MCCES
will provide each trainee with a computer assisted in-
structional strategy in an instructional media appro-
priate to his needs. In the area of unit training, the
Marines are developing a Corps wide hierarchy of train-
ing and readiness evaluation systems and a support li-
brary of operational experience. These systems are de-
signed to provide uniform standards for the training and
evaluation of units and staffs; and an easily accessible
data base of lessons learned, operational problems, etc.
for use by commanders.

    (1) Marine Corps Combat Readiness Evaluation
System (MCCRES) is a system which provides unit profi-
ciency standards. These standards are the basis for
training at battalion and division level. Units are
evaluated against these standards for readiness report-
ing purposes at the Fleet Marine Force (FMF) level.

    (2) Tactical Warfare Simulation, Evaluation,
and Analysis System (TWSEAS) is a portable system which
compliments MCCRES through the training of staffs.
There are three TWSEAS currently in use; one at the
Marine Corps Development and Education Command (MCDEC),
and one each at FMF Atlantic and FMF Pacific. TWSEAS
realistically games opposing force meeting engagements.
It will eventually game classified Marine Corps' contin-
gency plans, and evaluate the performance of the staff
while executing them.

    (3) Marine Corps Key Experiences Evaluation
System (MCKEES) is a computerized data retrieval system.

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The data base contains lessons learned and problem areas from previous Marine Corps operations, and will include MCCRES evaluations. MCKEES has two primary uses. It is designed to be integrated into TWSEAS. It will also serve as a readily accessable source of information for commanders and staffs; and will provide lessons learned, good ideas, and pitfalls for use in the planning of future operations. Proper use of MCKEES will help commanders avoid the repetition of past errors.

(4) Marine Corps Air Ground Combat Center (MCAGCC) located at 29 Palms is an organization which trains and evaluates unit performance in air/ground and fire support coordination procedures in a realistic, live fire environment. Appropriate MCCRES standards are incorporated into MCAGCC evaluations, and appropriate results will be included into both the MCKEES data base and the TWSEAS gaming process.

d. Air Force. The Air Force has centralized the accession and basic skill training of recruits within a single organization, the Air Training Command (ATC). ATC has the best observed system of external feedback, which allows operational units to make direct input to the training base through a series of field surveys and training review seminars. Specialty Training Standards (STS) have been developed for each Air Force Specialty Code (AFSC). They delineate the skill and standard of performance required for AFSC qualification. ORIs are used to test and evaluate a unit's operational mission capability. The Air Force has a progressive on-the-job training (OJT) program. Each organization has a trained NCO who supervises and coordinates the OJT program. ATC supports Field Training Detachments (FTD) which provide professional training and training assistance to the OJT program. "Red Flag" is a program designed to train aircrews to effectively operate against Russian equipment and tactics in a realistic combat environment. Aircrews fly against simulated Russian anti-aircraft fire and air defense missile attacks; and against aircraft which visually resemble Russian aircraft, using Russian fighter tactics. The Air Force has training and education career fields for both officers and airmen.

CHAPTER 2
TRAINING OPERATIONS

2-1 GENERAL. Chapter One provided an overview of the training requirements of the four services. The process for meeting those requirements is complex and the task of managing it is difficult. This chapter takes the systems approach to the process of transforming a civilian into a trained, skilled, and contributing member of a military organization. No part of this systemic process can be operated in isolation. To do so runs the risk of sub-optimization of the efficiency or output in one segment of the system to the detriment of the efficiency or output of the system as a whole. As will be shown later, sub-optimization exists within the training system. To conduct effective training, the services must operate it as a total system whose ultimate goal is not to meet recruiting quotas or a high graduation rate from recruit or specialized skill training courses; but rather the production and maintenance of combat effective military units.

Discussion of the following problem areas is not intended as a criticism of any individual or organization. To do so defeats the purpose of the study. The sole purpose of this discussion is to assist the services and the Secretary of Defense in organizing and managing the training system so as to contribute to combat effectiveness.

2-2 RECRUITING AND AFEES. All four services are experiencing difficulty in meeting their recruiting objectives. According to DOD figures, there was a shortfall of 5,600 volunteers in 1977, 21,200 in 1978, and 4,900 for the first quarter of 1979. In December 1978, the Air Force failed for the first time to meet its recruiting objectives. The DOD report (Dec 1978) on the All Volunteer Force (AVF) indicates that 2.16 million males reached the age of eighteen years in 1978. The number is projected to drop to 2.11 million by 1982, 1.90 million by 1985, and 1.68 million by 1992. These figures represent a decrease of approximately twenty-two percent during that time frame. Accession requirements are projected by the AVF report to remain relatively constant during these years. At the same time, technological advances mandate that the services attract

increasingly more capable volunteers. The above information suggests that it will be increasingly difficult to recruit sufficient numbers of qualified individuals in the foreseeable future.

The recruiting commands establish physical, mental, and vocational aptitude standards for volunteers according to specific individual service requirements. In two services (Air Force and Marine Corps), the recruiting commands are directly subordinate to the recruit training organizations and responsible to them for the quality and quantity of inductees. In the other two services, the recruiting commands are independent of, and not responsible to, the recruit training organizations.

The Military Enlistment and Processing Command (MEPCOM) is a field operating agency of the Army's Deputy Chief of Staff for Personnel (DCSPER). MEPCOM is jointly staffed and operates the sixty-six Armed Forces Examining and Evaluation Stations (AFEES) located throughout the country for all the services. AFEES is the agency responsible for screening all volunteers, assuring that they meet physical and mental standards, and measuring their vocational aptitude. The information generated by the screening process follows the volunteer to the recruit training center. To a large extent, this information determines the volunteer's occupational skill assignment and associated training. Improper screening and measurement cause operational training problems throughout the rest of the training system. AFEES is independent of and not directly responsible to the service recruit training organizations. With the exception of the Army, responsibility does not even lie in the same service.

    a.   <u>Medical Screening</u>. The 1978 Joint Service Review of MEPCOM reported numerous discrepancies in medical screening, and stated:

> ". . . Each military service has experienced an increase in the number of recruits being discharged from active duty due to medical conditions which existed prior to service (EPTS). Generally, these discharges take place during the first two to four weeks

of basic training. The cost to
the Department of Defense has
ranged from 48.6 to 54 million
dollars a year, based on an esti-
mated cost of $3,000 per EPTS loss."

These MEPCOM findings were validated by the CETRM Study
Group during site visits to four AFEES and ten recruit
training organizations (four Army, all three Navy, both
Marine Corps, and the one Air Force). Indications are
that medical screening and processing are inadequate or,
in some cases, nonexistent. Table 2-1 shows medical
discharges during recruit training for pre-existing
medical conditions in recent years.

Table 2-1.   Recruit Medical Discharges,
              All Services

Year	Accessions	EPTS Discharges	% Loss
1976	473,123	17,994	3.8
1977	446,749	16,183	3.6
1978	423,202	12,197	2.9

The percentage of loss, though small, represents a sig-
nificant number of persons; and a loss of training funds
of nearly $140 million over the three-year period. It
is estimated that approximately one-half of EPTS losses
are due to orthopedic problems, mainly in the lower
extremities. The decreasing loss percentage reflects
MEPCOM initiatives to improve the medical screening
process in recent years.

Discrepancies were also found in the administrative
processing of medical records at AFEES. Recruit train-
ing depots generally expressed dissatisfaction with
medical records accompanying recruits upon arrival.

Table 2-2 shows discrepancies found in the recruit
medical records of one company at an Army recruit
training organization visited by the Study Group. An
Army recruit company normally consists of 220 persons.

Table 2-2. Discrepancies in Recruit Medical
Records

Discrepancy	Number
Missing Physicals	16
Initial Urinalysis Missing	4
Initial Chest X-Ray Missing	8
Initial Audiogram Missing	20
Vision Test Missing	6
Other Deficiencies	7

b.   Vocational Testing. The Armed Services Voca-
tional Aptitude Battery (ASVAB) is the standardized
test used to determine a volunteer's vocational apti-
tude and capabilities. AFEES personnel almost unani-
mously agree that the two versions of the ASVAB cur-
rently in use have been compromised. In one case a
laminated "crib" card with ASVAB answers was confiscated
by an AFEES examiner. The Air Force Human Resources
Laboratory (AFHRL) is developing three new versions of
the ASVAB which should be available in the fall of 1979.
The new versions will include a reading comprehension
section, a test which is lacking in current versions.
However, AFEES personnel believe that it will be only a
matter of time before these are compromised also.

A 1979 Manpower Alternative study by a National War Col-
lege student postulated that the ASVAB is an invalid
measure of vocational aptitude. As a result, recruits
are classified into career fields for which they have
little interest or ability. In such cases the recruit:

> ".... is extremely likely to fail
> despite his own and the trainer's
> best efforts.... and is adminis-
> tratively discharged for lack of
> aptitude or motivation."

Should these low aptitude recruits complete training,
their disinterest and marginal qualifications increase
the possibility of their failing to complete their full
enlistment.

AFHRL scientists are currently evaluating a Computer
Adaptive Test (CAT) approach to vocational testing. The

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Navy is the proponent service on this project. CAT is
designed to streamline the vocational testing process
and help reduce or eliminate the compromise problems.
The CAT approach would require that each AFEES acquire
a number of remote terminals with access to a computer
data base. The data base would contain hundreds of
questions from which test questions would be randomly
selected. The skill or ability level of the volunteer
would be determined through a pass/fail procedure, which
would allow the program to rapidly "zero-in" on and gen-
erate a skill profile. The CAT approach promises to im-
prove the validity and accuracy of vocational aptitude
testing and lead to more accurate classification of vo-
cational interests and aptitudes. The estimated time
required to administer CAT is thirty to forty-five min-
utes as compared to three to three and one-half hours to
administer the ASVAB.

     c. __Miscellaneous Problems__. Most National Guard
volunteers are not required to process through an AFEES
prior to reporting to a recruit training organization.
In FY 77, only twenty-five percent of Army National
Guard volunteers did so. (In FY 78, forty-seven percent
did so. The goal for FY 79 is sixty percent). Con-
sequently, there has been inadequate screening and elimi-
nation of those who were unfit or undesirable. These
people were eliminated at the recruit training organiza-
tion at an increased cost to the government. National
Guard Bureau figures show that Army National Guard
attritions from recruit training were approximately 20.9
percent in FY 77, 21.6 percent in FY 78, and 18.4 per-
cent for the first half of FY 79. By comparison, Table
2-6 (page 2-19) shows that active duty Army attrition
was significantly lower for the same period.

DOD figures indicate that approximately ten percent of
first term enlistees are discharged for psychiatric or
social disorders. The AFEES screening process does not
test for such disorders.

     d.   __Recommendations__.

     (1) The Army and Navy should evaluate placing
their recruiting commands under the control of TRADOC
and CNET respectively to establish direct responsibility
and a feedback link between the organizations which ac-
quire and train recruits.

(2) MEPCOM and the services should expeditiously implement those recommendations concerning medical screening contained in the 1978 Joint Service Review which have been concurred in by the services. DCSPER, as the executive agent, and MEPCOM should supervise closely medical screening at AFEES.

(3) The Navy, as the proponent service, should expeditiously provide MEPCOM and OSD with a schedule for the development, testing, and acquisition of equipment for initiation of CAT at AFEES. DOD should monitor closely this effort and provide assistance in obtaining CAT approval and funding.

(4) The issue of National Guard medical and mental screening prior to arrival at the recruit training organization should be addressed at the OSD level. This problem cannot be solved by the individual services under the current system.

(5) MEPCOM should institute screening for psychiatric and social disorders at AFEES using one of the many valid tests available.

2-3 INSTRUCTIONAL SYSTEMS DEVELOPMENT (ISD). ISD is the broad application of a systems approach to training. It may be defined in a general way as a method of designing, conducting and evaluating training so as to optimize total system effectiveness. While ISD interfaces with all systems which make up the military services, its primary purpose and impact is centered on the training system. The current ISD model was developed by Florida State University. Following an interservice agreement in 1976, it was adopted by all four services as the methodology for managing the training process.

a. Process Description. The ISD model is an iterative and interrelated process used to insure that training is relevant to job requirements. It is costly and time consuming. When properly used, however, ISD will assist in the determination of what subjects to teach, and where and how they should be taught. ISD prescribes an evaluation procedure which will provide feedback to training managers on the effectiveness of their training. It is a continuous process of analysis, development, instruction, feedback and system correction. ISD consists of five sequential phases:

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(1)   Phase I, ANALYZE, presents procedures for defining jobs, breaking them down into tasks, and using the best judgment of experienced professionals and subject matter experts to select the critical tasks for training. Phase I also includes a process to construct job performance measures and to share occupational and training information within and among the services. It provides a rationale for deciding whether tasks should be taught in schools, on the job, or elsewhere; and also requires consideration of the interaction between training and career progression.

(2)   Phase II, DESIGN, deals with designing instruction using the job analysis information from Phase I. The first design step is the conversion of the critical task into terminal learning objectives. Learning objectives are analyzed to determine the learning steps necessary to master them. Tests are designed to ensure the student's general ability and prior experience match the desired level of learning capability. Finally, a sequence of instruction is designed for the selected learning objectives.

(3)   Phase III, DEVELOP, refers to the actual preparation of instruction. Determinations are made as to how the students will be managed, the kinds of learning experiences they will have, the activities they will engage in, and the form and content of the instructional delivery system (self-paced, lock-step, computer managed or a mix of the three). Techniques are prescribed for the careful review and adaptation of existing training materials. Procedures are included for the systematic design of instruction which can be delivered in a variety of media. This phase ends with the testing and validation of the instruction under actual teaching conditions with a group of typical students to ensure that training objectives are met.

(4)   Phase IV, IMPLEMENT, involves steps to carry out the instructions according to the plan developed in Phase III. Two important steps highlight this phase:

(a)   Training the staff in the procedures and problems unique to the specific instructions; and

(b)   Actually conducting the training.

The Phase IV effort continues as long as there is a need for the instruction.

    (5) Phase V, <u>CONTROL</u>, deals with procedures and techniques for maintaining instructional control standards. This phase includes the data collection process (from internal and external sources) upon which decisions on instruction revisions can be based. Internal evaluation is an analysis of student performance to determine deficient or irrelevant instruction. Externally, trained evaluators assess task performance <u>on the job</u> to determine if the student has learned to perform those tasks required and expected by the operational commander. All collected data (both internal and external) can be used as a continuous quality control on the instruction and as the primary input to upgrade the training program.

    b.   <u>Implementation</u>. The ISD model is not an end in itself. However, if used properly, it should provide an effective and efficient means of designing, implementing, and evaluating training. A 1979 HumRRO report (Vineberg and Joyner) concluded that the ISD methodology was not being used properly within the four services, stating that:

> "Major findings are that ISD is
> not being used either to optimize
> total systems effectiveness or to
> maximize efficiency . . . . many
> of the components of ISD are
> omitted and the close connection
> between components to make the
> process truly derivative is not
> maintained . . . . The potential
> of ISD to insure that training
> meets job requirements is not being
> realized."

Extensive site visits to the recruit and specialized skill training centers and to many operational units in all four services confirm these findings. Although the services make a valid attempt to use a systems approach to training and training development, no service completely and correctly follows the ISD model as prescribed by their own ISD regulations and manuals. However, information request responses and interviews

indicate that they believe they are following an ISD approach.

The services all interpret ISD differently and are all organized differently to implement it. Methods vary from very centralized to very decentralized. Service implementation methods are summarized below:

(1) ARMY. The Army has reorganized its Training and Doctrine Command (TRADOC) and all of its service schools around the ISD model with separate directorates responsible for various ISD phases. The analysis, design, and development phases are accomplished within Directorates of Training Development at each training center. Approved courses are taught by Training Directorates and evaluated by Directorates of Evaluation.

(2) NAVY. The Navy has recently established three centralized Instructional Program Development Centers (IPDC) located in San Diego, Great Lakes, and Pensacola. The IPDCs are independent of the recruit depots and "A" schools which conduct training. The IPDCs are to be staffed primarily with civilian education specialists and instructional material developers. Since the IPDC is not yet fully implemented, Navy school courses are either revised at the training centers by the instructors who teach them or are developed by civilian contract.

(3) MARINE CORPS. The Marine Corps has no central training organization to implement the ISD process. ISD procedures are taught at two Instructional Systems Management schools. However, such schools only process a small number of the required instructors. Specific training courses are designed and organized within each separate school by a team of instructors and civilian educational specialists which constitute a Course Content Review Board for that school.

(4) AIR FORCE. The Air Force is organized to carry out the ISD process within each Technical Training Center. Course Training Standards (CTS) are developed by civilian education specialists and enlisted ISD technicians within each Training Branch based on information collected from occupational surveys and field questionnaires. The Plans and Requirements Divi-

sion then negotiates the CTS with the user organizations (field commands) to determine the final training standards and specific levels of proficiency required for each. The curriculum developers then design criterion objectives and tests to meet these standards and develop the instructional method and all materials required for the course. The entire course package is then validated and upgraded through actual teaching by instructors assigned to the Training Branch. Both internal and external evaluation is conducted by the Training Evaluation Division. They prepare and send out detailed field surveys to course graduates and their supervisors, and make visits to the user commands to gather direct feedback information. However, they are not adequately staffed to perform these functions in a timely manner.

The Study Group finds that the majority of ISD development work is accomplished by service school instructors. This finding is validated by a 1979 HumRRO report on ISD.

    c. <u>Problem Areas</u>. Following are five specific reasons why the ISD process has not been fully implemented even though it has been adopted by the services.

       (1) Even within the training establishment, the ISD philosophy and process is not completely understood. Outside the training establishment, it is neither understood nor fully accepted by some senior officers. At one service school, a general officer interpreted ISD to mean self-pacing. This is a common misconception within the training community. Without the understanding and formal support of leaders throughout the services, neither ISD nor any other new concept can be fully accepted and implemented.

       (2) The services are not properly manned to implement ISD. Training development procedures are detailed and complex, and require large numbers of highly trained personnel. Although there are exceptions, the services generally do not have enough personnel to adequately follow the ISD process. ISD personnel generally do not have adequate training on the process. Within the Army, it was found that Training Development Directorates were undermanned. The Navy lacks qualified personnel at its IPDCs and must develop new courses by civilian contract. The Marine Corps has no ISD posi-

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tions authorized. School instructors are responsible
for the ISD process. In the case of an Air Force tech-
nical school, the evaluation organization was under-
manned.

(3) The services are not properly funded to
implement ISD. The value of training development is
difficult to quantify and justify before Congress and
OMB. In addition, when budgets are decremented during
the year, cuts inevitably are largest in training
developments as opposed to training operations and
facilities directly related to the student load. Travel
and per diem funds are inadequate, thus limiting ex-
ternal evaluations which are essential to the ISD pro-
cess.

(4) Internal evaluation processes and sys-
temic feedback loops within the training establishments
are generally in place and functioning well. However,
in most instances, the external evaluation process and
systemic feedback loops between operational units and
training establishments either do not exist or are not
fully utilized. Without external evaluation, a valid
determination of training effectiveness cannot be made.
Some schools send out student and supervisor question-
naires. A few send evaluation teams to physically ob-
serve the effectiveness of institutional training. The
Navy hosts yearly conferences on its weapon systems at
major fleet concentration sites to update its training
as required by the fleet. The Air Force occasionally
hosts course review conferences at its technical
schools. However, the magnitude of the task precludes
an effective evaluation at current funding and person-
nel levels.

(5) Often the ISD process is circumvented by
outside influences beyond the control of the services.
Budget analysts are often unversed in the realities of
training operations and do not understand the complex-
ities of the ISD process. The Army's training require-
ments have remained essentially the same for the past
four years. Based on projected training requirements
arrived at through an ISD type analysis and other
internal management actions, the number of training
spaces were reduced by eighteen percent during this
period. However, DPS 40/20 eliminated 8,000 mili-
tary and 6,600 civilian spaces from the FY 1979 budget.
The PDM eliminated an additional 4,200 spaces. Subse-

quent Army rebuttal resulted in the restoration of some but not all of these spaces.

d. Recommendations.

(1) OSD should provide increased assistance to the services in the full implementation of ISD. Specific requirements include assistance in the justification to Congress and OMB of the value of training development and evaluation, and in defense of funds and personnel required to support ISD.

(2) The services should pursue the full implementation of the ISD process.

2-4 RECRUIT TRAINING. In addition to the physical conditioning, training in basic skills, and military indoctrination training given to all new recruits; each service has developed training objectives designed to meet their particular mission requirements. Because of their land combat functions, the Army and Marine Corps require that all recruits undergo intensive physical conditioning, individual weapons training, and instruction in the basic combat skills. The Navy and Air Force, because of their sea and air combat functions, place less emphasis on these skills. The Navy stresses subjects designed to prepare its recruits for the restricted living and working conditions found in the fleet environment. All services concentrate on instilling discipline, motivation, and basic military knowledge.

If recruit training organizations successfully meet their training objectives, their output will be a motivated, well disciplined, and well-trained service member who is physically and mentally prepared to undergo specialized skill and unit training. Unfortunately, this is frequently not the case. Several studies show that the level of discipline, pride, respect for authority, and general military knowledge are highest at the time of graduation from recruit training. It is the observation of the Study Group that throughout the four services, officer and NCO instructors in Specialized Skill Training (SST) schools and operational unit commanders believe that these levels are not high enough. Figure 2-1 graphically depicts this situation. Some SST schools have established special programs in their

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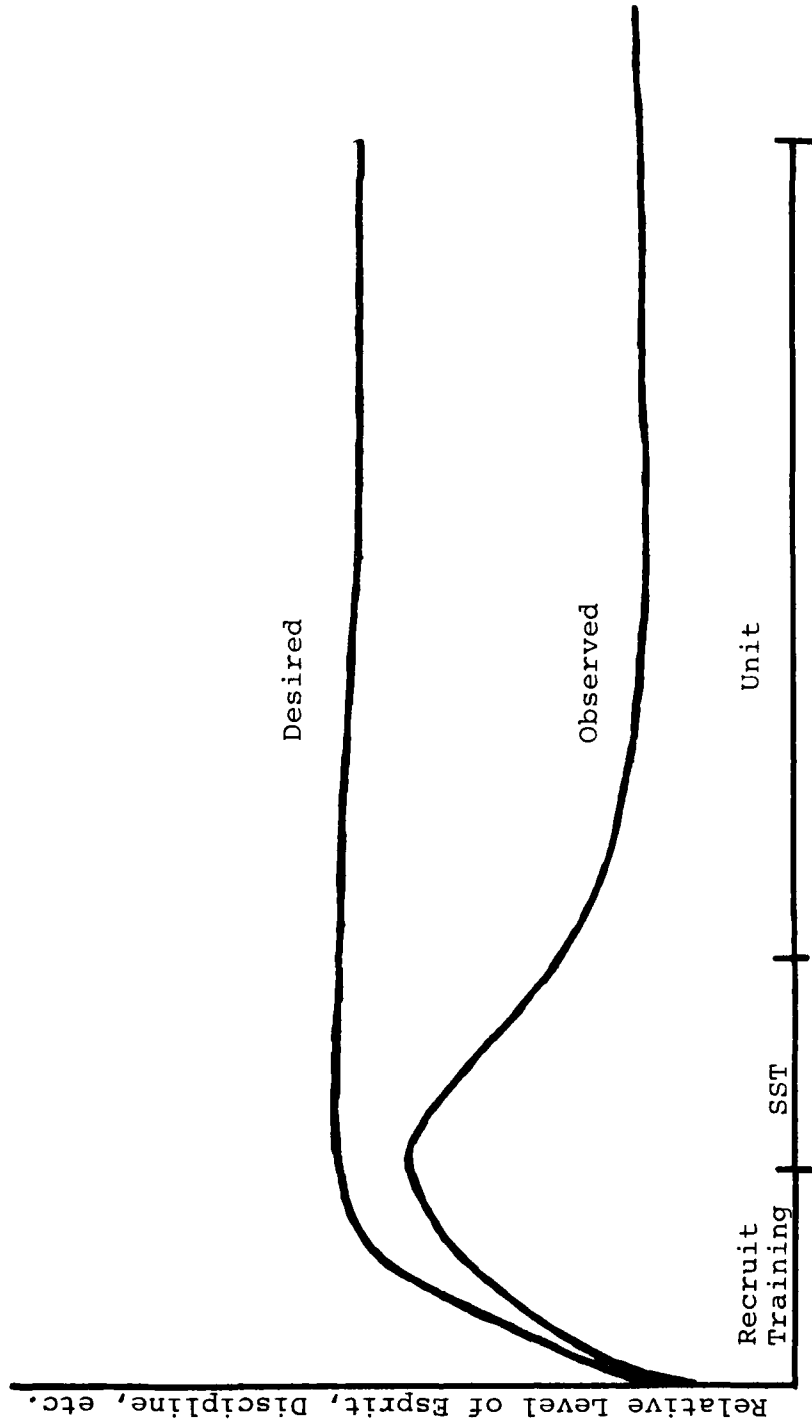
Figure 2-1 Actual vs Desired Levels of Esprit, Discipline, etc.
(First enlistment)

curricula which are designed to reinforce the fundamental concepts of discipline, pride, and respect presented in recruit training and to correct basic skill deficiencies.

a. Determination of Recruit Training Objectives. Today's military recruit is the product of, and is representative of society as a whole. The services have no control over a recruit's initial attitude and skills. The purpose of recruit training is to introduce required attitudinal changes and to impart required basic skills to recruits. The services believe that their military knowledge and experience have enabled them to determine valid and necessary recruit training objectives. However, they frequently experience difficulty in proving to Congressional and OMB critics that their programs are required, and that they work. A 1977 OMB study on Recruit Training vividly expressed this problem as follows:

> "The services have at one time or another raised all of the above objections to changes in recruit training. They have not, however, been able to quantify the impact of these changes on any meaningful output measure such as force capability or readiness. The present program levels, therefore, are not justified by empirical evidence and we feel, based on this study, that substantial reductions can and should be made."

OMB is also unable to quantify the impact of change. However, they are able to quantify dollar and manpower savings. Until the services are able to analytically justify their recruit training programs, and quantify the adverse impact of changes to outside critics, they will continue to be subjected to externally mandated changes and reductions. The ISD process provides a valid analytical tool to aid the services in the establishment and justification of valid recruit training objectives. Recent efforts in the field include an extensive analysis of training objectives currently un-

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derway at the Army Infantry School, the 1977 Navy Recruit Training Center Conference, the 1971 Air Force Basic Military Training (BMT) Study which is reviewed biennially, and the 1977 Marine Corps study of recruit training by the Day Task Force.

The length of recruit training is determined independently by each service. It should be based on an analysis of recruit training objectives and the time and resources required to achieve them. Recruit training is the subject of conflicting pressures. On the one hand, there is internal pressure from the services to increase course length and substantive course content, and to improve the overall quality of the training product. On the other hand, there is increasing pressure from the GAO, OMB, etc. to economize by reducing course content and length. In the Navy, these competing pressures have resulted in ten changes of course length in the past nine years. The variation in length of recruit training among the four services shown in Table 2-3 reflects the time required to meet their service recruit training objectives.

Table 2-3.   Length of Recruit Training

Services	/Trng Weeks/Days	
Army	7.0/49	(weekends)
Navy	7.7/38	(no weekends)
Marine Corps	10.3/63	(no Sundays)
Air Force	6.0/30	(no weekends)

Political, sociological, and other external factors also result in changes in recruit training content. The services must deal with contemporary social problems such as: drug and alcohol abuse, the changing roles of women, race relations, etc. Since recruits cannot succeed in the service today without being able to cope with these problems, the services must deal with them even at the expense of some combat related training. Table 2-4 shows the extent of such training presented in recruit training. Often such training is overemphasized and is mandated without an analysis of its utility, resource requirements, or the impact of eliminating combat related training to accommodate it. Although not speci-

Table 2-4. Recruit Training on Con-
           temporary Social Problems

Service	Recruit Trng Hrs
Army	10
Navy	18
Marine Corps	11
Air Force	17

fically a recruit training issue, driver's education
provides a good example of overemphasis of mandated
training. The Marine Corps requires all Marines under
twenty-six years old to undergo ten hours of driver's
education each year. The Navy recruit training syllabus
requires eight hours of driver's education training.
The utility of driver's education is not questioned.
However, a thorough analysis of driver's education
training objectives probably would not support the ex-
tent of the above requirements.

     b. Development of Recruit Training Programs. Fol-
lowing the identification of training objectives is the
development of programs to achieve them. Training de-
velopment includes the determination of the specific
tasks or knowledge to be taught, and the selection of
an optimum instructional strategy. The proper instruc-
tional strategy is best determined by a proper analysis
of available strategies, training objectives, and the
capabilities of the recruit population. ISD offers a
valid analytical approach to accomplish this.

The services have developed many different training pro-
grams for women. The women's program may be separate
but similar, separate but identical, or integrated and
identical to the men's program. In some cases, the Army
has both male and female platoons in the same company.
In other cases, there are male and female squads in the
same platoon. Finally, there are cases where men and
women are integrated within the squad. The Army and Air
Force have fully integrated their programs with women
receiving the same training as men. The Army's training
objectives result in its women receiving much more weap-
ons, combat and field training than do the Air Force
women. The Marine Corps has completely segregated

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training, providing separate but similar programs.
Marine women do not receive rifle training. The Navy
does not integrate their training divisions. However,
their programs are the same for men and women with some
differences in standards because of physiological dif-
ferences.

The Air Force and Navy have an advantage in that the
primary function of their enlisted force is the manning
of technical equipment rather than involvement in direct
combat. Therefore, they have fewer problems in inte-
grating their training. The Marine Corps avoids the
problem by not integrating its women. Marine Corps
women recruits are trained separately from the men, and
are given a less rigorous training program reflecting
their probable utilization.

    c.   <u>Implementation of Recruit Training Programs</u>.
The key to successful implementation of the recruit
training program is the quality of trainers and training
managers. The development of positive attitudes in re-
cruits is largely dependent upon the example set by the
trainer, and his interest in and ability to deal with
their problems. Recruit training organizations need
adequate numbers of mature and experienced trainers who
are themselves well trained in instructional techniques,
and who are well motivated towards their jobs.

The first line supervisor (officer and NCO) is the crit-
ical trainer and leader. The Study Group finds the
quality of the recruit training cadre NCO to be very
high in all services. As a general rule, they are ma-
ture, experienced, well qualified, and well motivated.
However, Army personnel policies result in many inex-
perienced young officers serving as recruit company
commanders. At one Army recruit training organization
visited, eight of the forty authorized company command-
ers were Second Lieutenants. Another fifteen were First
Lieutenants. Most of these officers had no prior troop
leading experience. By contrast, the Marine Corps re-
quires that officers successfully complete a full tour
in an operational unit before assignment to a recruit
training billet. The Air Force and Navy assign only ex-
perienced officers to these positions. Current Army
personnel assignment policies give the training estab-
lishment a low assignment priority. Thus, it does not
receive its proportionate share of experienced officers.

The services have different philosophies as to the level of manning needed at their recruit training organizations. Table 2-5 shows a breakout of personnel in direct supervision of recruits:

Table 2-5. Recruit Training Cadre by Service

Service	Officers	NCOs	Recruits (Approx)
Army* (Battalion)	11-13	45-60	880-1,100
Navy (Division)	1	25-30**	960
Marine Corps (Company)	5-10	45-50	960
Air Force (Squadron)	2	50-60	1,000

*Depends on whether there are four or five companies per battalion.

**Navy enlisted cadre are generally of higher rank than other service cadre.

The Army and Marine Corps require a larger training cadre because of the supervision and safety requirements of their ground combat training. As can be seen, the Navy mans its recruit training organization with fewer personnel than do the other services. The commanders of the Navy recruit training organizations are all Captains (O-6). In the other services, the commander is a Major General (O-8).

The Study Group finds that Army and Navy officers perceive an assignment to a recruit training organization as detrimental to their careers. This is especially true in the Navy where, even within the recruit training organizations, the belief is that high quality officers go to the fleet instead of to the training base. The Marine Corps and Air Force place a higher priority on assignment to recruit training duty; and their officers do not perceive such duty as detrimental.

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Attrition exacerbates the problem of recruiting short-
falls. Table 2-6 shows the approximate extent of attri-
tion in recent years as reported to the Study Group by
the services. Each attrition represents an additional
person who must be recruited to maintain the given force
structure. The high attrition rates shown in Table 2-6
suggest that the services may not be utilizing the full
potential of all their recruits. The reduction of at-
trition is a major goal of the Defense Department. Most
attritions are a result of academic failure, attitudinal
or motivational problems, or medical disqualifications.
Very little reduction in attrition can be achieved in
the area of medical disqualifications. Recruits who
cannot meet medical and physical standards should be
identified and eliminated during AFEES screening, or as
early as possible in the recruit training cycle so as to
minimize the cost to the government. There is some po-
tential for reduction in attrition of recruits with at-
titudinal or motivation problems. Retraining programs,
proper guidance, counselling, and interest in their per-
sonal problems can effect a positive change in the atti-
tude and motivation of some recruits.

Table 2-6. Recruit Attrition (Non-Prior Service)

Service	FY 74 M/F**	FY 75 M/F	FY 76 M/F	FY 77 M/F	FY 78 M/F	FY 79* M/F
Army	8.2/ 6.5	9.1/ 7.8	11.5/ 10.0	9.7/ 8.3	7.1/ 8.4	6.3/ 8.7
Navy	--	--	--	13.5/ 9.1	11.2/ 11.0	10.7/ 10.7
Marine Corps	--	--	--	9.5/ 13.0	10.1/ 13.0	11.4/ 14.8
Air Force	6.6/	7.6/ 6.2	7.1/ 7.5	7.1/ 8.1	6.9/ 8.9	6.2/ 10.2

 * 1st Quarter
** Male/Female

The greatest potential for reduction in attrition lies
in the area of academic failure. An NPRDC study on

reading skills and military effectiveness, which analyzed both Army and Navy recruits, found that volunteers who read at the lower grade levels have a higher probability of failure to complete recruit training than do high grade level readers. GAO research indicates that poor readers have more disciplinary problems, higher discharge rates during and after training, poorer job performance, higher attrition rates in technical training, and a lack of potential for career advancement than do good readers. Site visits throughout the training establishment validate these findings.

Department of Health, Education, and Welfare studies on reading abilities conducted during the 1974-1975 time frame state the following:

> (1) 12.6 percent of seventeen year old students are functionally illiterate.

> (2) 21.7 percent of adult Americans over seventeen are functionally illiterate.

> (3) 32.2 percent of adult Americans are barely functionally literate.

Functional literacy is generally understood to mean the ability to understand written English at the 5.5 grade level.

This data would suggest that there is also a literacy problem in the services. Numerous studies confirm that this is true. However, it appears that the literacy level of the services is generally higher than that of the population as a whole. Table 2-7 shows cumulative reading grade levels in the services as shown in the AVF report.

The Army SQT is written at approximately the 10th grade level. Its field manuals are written at approximately the 11th grade level. Navy manuals are written at a 9th grade average level, with many written at 12th grade or higher level. The Marine Corps uses many manuals written by the other services. The "Guidebook for Marines" is written at the 6th grade level, while FMF manuals are written at the 12th grade level. Air Force manuals are written at various levels depending on AFSC requirements. The minimum level is 9th grade. Some manuals are written at up to the 14th grade level.

Table 2-7. Cumulative Reading Grade Levels

Reading Grade Level	Army	Navy	Marine Corps	Air Force	DOD Total
10 and below	69	54	63	41	61
9	57	40	48	31	47
8	46	29	36	21	36
7	37	20	27	13	28
6	25	12	18	8	18
5	15	8	11	5	11
4	8	4	5	2	5
3	4	2	2	1	2
2	1	1	1	0	1

It is apparent from this information, and from Table 2-7,
that large numbers of service men and women have diffi-
culty comprehending the basic documents that they must
deal with on a daily basis. The Army has attacked this
problem on two fronts. It has instituted the Basic
Skills Education Program (BSEP). BSEP I involves test-
ing of all recruits on reading ability. Those reading
below the 5th grade level are given remedial reading to
raise them to that level. BSEP II has the goal of rais-
ing all first-term enlistees to the 9th grade reading
level. BSEP III is under development. A required read-
ing grade level will be established for all MOS. Sol-
diers will be given remedial reading until they meet the
requirements for their MOS. A recent Army study report
indicates that literacy programs are more successful
when related to a specific MOS than when related to gen-
eral reading levels. The Navy's Job Oriented Basic
Skill Program includes math and vocabulary training as
well as remedial reading. The Marine Corps tests read-
ing comprehension at MCRD San Diego only. Remedial
reading training programs were eliminated in 1978 for
financial reasons. The Air Force tests for reading com-
prehension early in the recruit training cycle. Recruits
with reading disabilities are given full or part time
remedial training until they read at the 8th grade level.
Reading level is entered in the recruits' records and is
used in job classification.

Level loading is also a problem in the management of
recruit training. Figure 2-2 shows the monthly varia-
tion in military volunteers for FY 1978. This varia-
tion is representative of previous years. The peaks
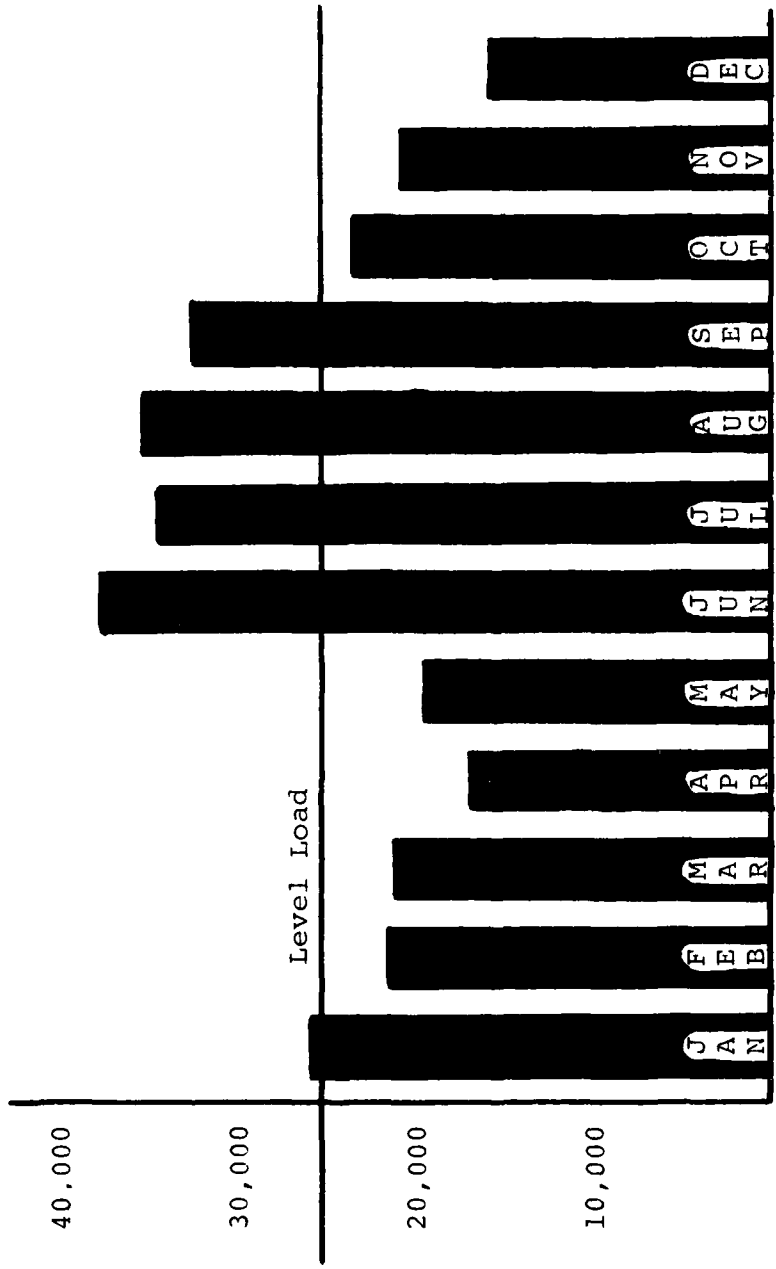
Figure 2-2 Monthly Variation in Military Volunteers, FY 1978

starting in June represent those who volunteer for service following graduation from high school. This pattern results in overloads at the recruit training centers in the late summer and early fall, and under utilization of their facilities at other times of the year. The size of the training base staff is essentially constant throughout the year. The services cannot afford the personnel to staff them for periods of peak loading nor can they accept the difficulties associated with staffing to serve the lowest load level. The optimum situation is to have a level loading of recruits throughout the year, and staff for that level. The services all recognize this problem and strive to achieve level loading through the delayed entry program and other strategies. However, in an era of recruiting shortfalls, the services must accept volunteers when they are ready to enlist, or risk losing them.

d. <u>Evaluation and Control</u>. The evaluation of the overall quality of recruit training is difficult because of the lack of accepted methods to quantify attitudinal change in human beings. A recruit's knowledge of the basic military skills can be easily measured and evaluated. However, the evaluation of desired attitudinal changes is at best subjective. Feedback of evaluation may be either internal or external in nature. Internal feedback mechanisms were found by the study group to be established and operational in all service recruit training organizations. The services use numerous methods, some very sophisticated, to evaluate the quality of their training product.

External evaluation was found to be either nonexistent or inadequate. External evaluation is complicated by the fact that attitudinal changes developed in recruit training may have been diluted during the time (up to eighteen months) spent in SST schools. The Army has no formal external feedback mechanism that requires SST schools or operational units to evaluate the quality of recruit training. There are occasional questionnaires, surveys, etc.; but they are normally on an ad hoc basis, and are not institutionalized. The Navy also lacks a formal feedback mechanism. The only formal Marine Corps feedback mechanism is the HQMC Training Conference. However, it is only held once a year and cannot provide feedback on a timely basis. It is composed solely of senior officers and staff NCOs, and is concerned with all training, not just recruit training. The informal

external feedback loop within the Marine Corps is facil-
itated by the fact that the two MCRDs are located in
close proximity to two of the three active Marine divi-
sions (MCRD Parris Island and 2nd Mar Div Camp LeJeune,
and MCRD San Diego and 1st Mar Div Camp Pendleton). The
Air Force conducts a training review involving senior
officers and NCOs from operational units on a biennial
basis. This conference provides very effective training
feedback, but again is not timely. An additional Air
Force feedback mechanism is the Basic Military Training
(BMT) questionnaire. This questionnaire is sent to
BMT graduates and their supervisors. Correction to re-
cruit training problems brought to light by the external
feedback mechanism are quickly made by all services.

    e.   Recommendations.

        (1)   OSD should assist the services in con-
ducting a comprehensive ISD type analysis of recruit
training objectives and obtaining the resources required
to achieve them. OSD should assist the services in re-
sisting externally mandated changes for a three year
period to permit full implementation and evaluation.
This problem cannot be solved by the individual services
under the existing OSD management system.

        (2)   The services should conduct an ISD type
analysis to insure that non-military recruit training is
neither over- nor underemphasized. Under the current
management system, the services are unable to resist
certain externally mandated non-military training re-
quirements. OSD should assist the services in resisting
such mandates until a complete analysis is made of the
utility and worth of the training, the resources re-
quired to support it, and the effect of the elimination
of combat related military training to accommodate it.

        (3)   The services should conduct an ISD type
analysis of training objectives for women. The analysis
should consider the duties and tasks expected of women,
determine training objectives to support these duties
and tasks, and develop consistent training programs to
meet those objectives.

        (4)   The services, particularly the Army and
Navy, should reevaluate their training personnel assign-
ment policies on a recurring basis. If the decision is
made to give training organizations a low assignment

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priority, it should be made with full realization of the probable impact on the quality of training.

(5) All services should be aware that given the educational level of today's society, a large number of recruits will have reading comprehension problems. Recruits should be tested early for reading grade levels, and those with reading disabilities given specific job-related remedial reading training. All services should evaluate rewriting their manuals and publications at a level which can be comprehended by a greater number of their personnel.

(6) All services should evaluate alternatives, and institutionalize one or more formal feedback mechanisms designed to provide a near real time, accurate, and valid external evaluation of the effectiveness of recruit training.

2.5 SPECIALIZED SKILL TRAINING (SST). New weapons systems are becoming ever more destructive, complex and expensive. To properly operate and maintain them requires a service member who is better trained and more technically capable than ever before. Yet the technical capabilities of military enlistees has remained relatively constant, or has improved only slightly over the years. Figure 2-3 graphically explains this concept. The ever increasing gap between the technological complexities of equipment, and the skill and ability of the military volunteer to operate and maintain it represents the training requirement. Each service has catalogued its vocations into specific job specialties known as Military Occupational Specialties (MOS) in the Army and Marine Corps, Navy Enlisted Classification (NEC) codes in the Navy, and Air Force Specialty Codes (AFSC) in the Air Force. Upon completion of recruit training, the majority of service members undergo SST in one of these skill areas. According to the FY 1980 MMTR, fifty-three percent of the institutional training load for the active force is devoted to SST. Table 2-8 shows the number of individual SST courses to be offered in FY 1980. The large number of Navy and Air Force SST courses reflect the technical nature of these services.

Many of the problems discussed in recruit training are common to SST. These include: the need for a detailed ISD approach, size and quality of training staff, high attrition rates, poor reading skills, and non-level
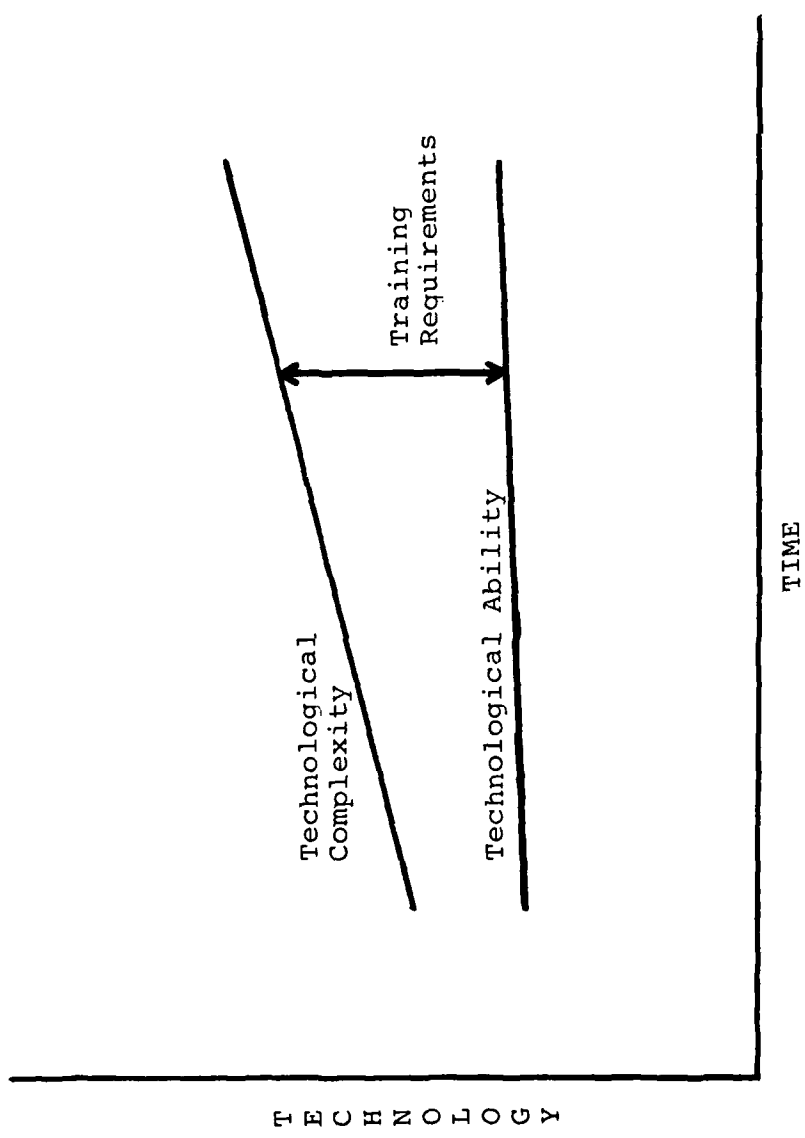
Figure 2-3 Training Requirements

Table 2-8. Specialized Skill Training, FY 1980

Service	No. of Courses	No. of MOS/NEC/AFSC
Army	1,050	345
Navy	2,865	1,015
Marine Corps	626*	948
Air Force	2,415	364

*Includes 346 courses conducted for the Marine
 Corps by other services

loading of students. Since these issues were addressed
in some detail in the recruit training section, they
will not be covered again in this section.

    a. Determination of SST Objectives. As with re-
cruit training, the first requirement of SST is to de-
termine valid training objectives. The services have
historically over-trained students in their SST courses,
providing them with skills and knowledge seldom or never
used on the job. In recent years this practice has
changed, as continuous budget cuts have forced the ser-
vices to reevaluate their SST objectives. There is, for
example, little requirement to teach the theory of elec-
trical induction in a course designed to qualify techni-
cians to replace or repair electrical generators. The
Air Force Bright Spark program reviewed electronic
courses to determine the amount of theory required by
the student. Since its inception in 1975, the lengths
of seventy-five electronic courses have been reduced.
The other services also have made efforts in this area.
The problem is to determine the specific skills actually
required on the job by first-term enlistees, and to
translate job skill requirements into training objec-
tives. The front-end analysis of the ISD process serves
as an excellent mechanism for making that determination.
The Study Group finds that none of the services have
done an adequate job of analyzing job skill requirements
and developing training objectives. The main reason for
this is that a thorough front-end analysis is time con-
suming, expensive, and requires a large and well trained
staff to accomplish. The training development organiza-
tions of the services are not adequately staffed to
properly analyze the large number of courses represented
in Table 2-8. In practice, much of the determination of

training objectives is performed by school instructors as an additional duty. They frequently determine course content with little feedback from operational units which would insure that the training objectives meet actual job requirements.

Once valid training objectives have been determined, a decision must be reached as to where training to meet them should be conducted. Should training be conducted in a formal school environment, or should it be exported to the operational units? SST may be conducted in a formal service school setting, at installation level support schools, by mobile training teams, or through a variety of OJT programs and procedures in the operational units. Information Request responses indicate that the Army is the only service to fully espouse the use of ISD as the method for making that determination. In all services, the decision appears to be driven by financial constraints as opposed to objective analysis. The current trend is to export training requirements, along with the lesson plans and materials needed to support them. Exportation of training requirements is often mandated by budgetary restrictions and Congressionally imposed limitations on the length of SST courses. The OSD Consolidated Guidance for FY 81 states that on-the-job training programs supported by exported and self study materials will be used by the services to the maximum extent possible. Figure 2-4 graphically illustrates the problem that this guidance causes for the services. The Training Requirements depicted in Figure 2-3 are always increasing. At the same time the increasing export of training results in less SST conducted in the formal schools. The resulting gap represents the increasing amount of individual basic and specialized skill training which must be conducted within units at the expense of collective and team training.

The Army Infantry School has conducted an analysis of those tasks required of a basic infantryman to successfully do the job, identifying 162 critical tasks. As a result of both the ISD process and resource restrictions, the Infantry School provides instruction on only seventy-six of these tasks. The others are exported, and the training conducted within operational units. The Training Development Branch of the Artillery School reports 232 critical tasks for cannoneers (MOS 13B); 156 of them are taught in the unit, not in formal schools.
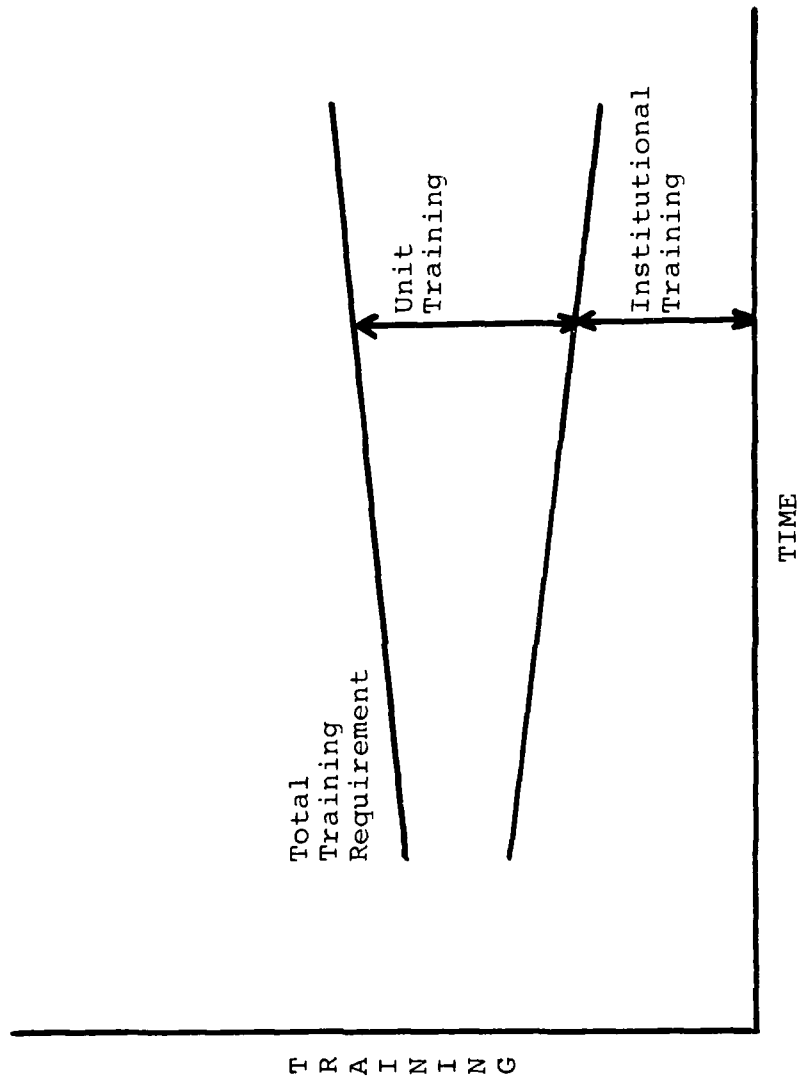
Figure 2-4 Unit Training Requirements

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Information request responses, particularly from the
Marines in the Far East and the Army in Europe and
Korea, are almost unanimous in the conviction that ex-
ported training should be held to an absolute minimum.
Reasons cited for this conviction are:

(1) Reduced combat effectiveness due to per-
sonnel not having sufficient skill training to enable
them to become effective members of a combat unit in a
minimum amount of time.

(2) Reduced unit training time and degraded
unit training effectiveness because basic individual or
specialized skill training must be conducted before col-
lective or team training.

(3) Inadequate facilities to properly conduct
SST at the unit level.

The following two extracts from the Information Request
responses generally represent the opinions of opera-
tional units on the subject of exported training:

".... Assign all Marines to Field
Skill Training (FST) schools prior
to assignment to the unit. Cur-
rently FMF units are being re-
quired at an increasing rate to
handle young Marines in the bat-
tery before they have the basic
skills of the MOS which they have
been assigned. This is a heavy
load on units which are combat
ready."

"As much training as possible
should be conducted at the formal
school, even to the extent of ex-
tending both basic training and
AIT if that is required to produce
a better trained soldier in the
basic skills. The trend today
seems to be to rely more on the
unit of assignment for much of the
required basic skills which is
simply beyond the resources avail-
able in an average battalion. A

> formal school has qualified in-
> structors with the latest informa-
> tion, adequate training aids, and
> adequate facilities. The battal-
> ions may have the experts, but
> usually have limited training aids
> and facilities. A major combat
> readiness problem in this area is
> the fact that current graduates of
> BCT/AIT are not ready for combat
> ...."

Air Force and Navy responses, which are not as adamant,
still prefer that SST training be conducted in schools
as opposed to being exported to operational units. Navy
studies have clearly demonstrated that formally trained
personnel advance in rating much more quickly, and in
proportionally greater numbers than those trained via
OJT. In Congressional testimony, the services indicate
that an unacceptable amount of training is being trans-
ferred from schools to operational units.

The above situation is an example of sub-optimization
within the training system. The SST sub-system has been
optimized by the reduction of budgets and shortening of
course lengths. This has been accomplished at the ex-
pense of the unit training sub-system, and to the detri-
ment of the objectives of the overall training system;
which is the production and maintenance of combat effec-
tive units.

     b. <u>Development of SST Programs</u>. New weapons sys-
tems are of little value to the operating forces without
trained operators and maintenance personnel. It is im-
perative that the development of training programs and
the associated instructional strategies, training de-
vices, facilities, etc. be an integral part of the R&D
process. DOD Directive 4100.35, <u>Integrated Logistics
Support</u>, specifies that this be done; and the services
try very hard through their R&D and procurement agencies
to comply. However, external pressures often make com-
pliance difficult or impossible. When the Air Force
procured the A-10 close air support aircraft, it also
procured a simulator system. The procurement package
included a 1.1 million dollar line item for factory
training for simulator maintenance. However, procurement
funds were reduced and the maintenance training can-
celled. As a result, the Air Force now contracts A-10

simulator maintenance at a cost of $3.6 million in FY
1980. Projected cost in FY 1981 is $10 million.

Joint service institutional training is a strategy
which could help reduce training costs without sacrific-
ing effectiveness. Many MOS, NEC, and AFSC are so simi-
lar that they could easily be taught for all services at
one school site. ITRO's charter gives it the responsi-
bility to ascertain the similarity of service occupa-
tional skills, review training objectives and course
content, and make recommendations to the services on the
combination of training where it would be cost effective
to do so. Participation in ITRO is voluntary, and the
services are not bound to follow its recommendations.
With the exception of the Marine Corps (which utilizes
other schools for approximately thirty percent of their
SST) the services generally resist joint service train-
ing. Interviews and Information Request responses indi-
cate that the other service commanders approve of joint
service training in principle. They are reluctant to
fully accept it for fear of losing control over course
content and standards, and the inability to impose ser-
vice particular indoctrination and discipline on train-
ees. In spite of this reluctance, however, the FY 1980
MMTR lists a number of courses that are now being con-
ducted under joint service training auspices. However,
it appears as if the "easy" consolidations have been ac-
complished, and that the services are not now pursuing
interservice training as vigorously as in the past.

    c. Implementation of SST Programs. The Army is
implementing One Station Unit Training (OSUT) as a way
to reduce training costs and time without reducing the
effectiveness of training. The OSUT program combines
recruit training and SST (for certain skills) into a
single continuous course. In FY 1976 approximately five
percent of non-prior service personnel were trained un-
der the OSUT concept. In FY 1980 more than fifty per-
cent will be trained by this method. Table 2-9 shows
the time required for current and projected OSUT courses.

The time previously required to complete recruit train-
ing and SST (including travel time between training sta-
tions) averaged sixteen weeks. OSUT time and money sav-
ings are obvious. Extensive tests conducted by the Army
indicate that the quality of OSUT graduates is generally
as good as that of graduates trained under the longer

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Table 2-9. OSUT Training Time

Skill Area	Trng Time Weeks
Armor	13
Artillery	12
Engineer	12
Infantry	12
Military Police	14
Signal	13

two course system. The OSUT concept may have applica-
tion in the other services. However, it is not applica-
ble to all training conducted by the Army; and will
probably not be universally applicable in the other ser-
vices either.

The FY 1981 OSD Consolidated Guidance states that compu-
ter assisted and self-paced instruction will be used
where feasible in order to minimize the time spent in
training. This has been OSD policy for several years.
The Army and Marine Corps are the biggest users of self-
pacing at the present time. One Army school teaches all
but two SST courses by the self-paced method, and is
converting those two. Marine Corps personnel at MCDEC
indicate that computer based self-paced education is the
trend in future military education. At one Navy base
visited, only five of fifty-three courses had been con-
verted. However, those five courses comprised approxi-
mately fifty percent of the training load. The Air
Force has the most experience with self-pacing, and has
become somewhat disenchanted with it. Only two of 237
courses at one Air Force Technical Training Center are
completely self-paced.

Self-pacing is a useful educational strategy in some
situations, but is not universally feasible. The ISD
process provides a valid methodology for determining the
feasibility of self-pacing or other instructional strat-
egies. The Study Group and other researchers have found
that very little analysis is conducted in this area.
Following are examples of cases where self-pacing has
reduced effectiveness and/or efficiency.

    (1) Managers of a high student density Navy
"A" school found that both course and service attrition

increased after the introduction of self-paced computer managed instructional techniques. An increase in instructional personnel and equipment, and the institution of a two weeks remedial reading course was necessary to return attrition rates to former levels.

      (2) In one Army SST course, an increase in average student man days resulted from the introduction of self-pacing. The students, whose relative reading abilities were lower than normal, were incapable of doing the work without increased attention from instructors. As many as ten percent of the students had to be taught on an individual basis. Attrition and disciplinary problems increased in this course after the introduction of self-pacing.

      (3) The Air Force began self-pacing in about 1966. In the early seventies, self-pacing peaked out, with about twenty percent of Air Force courses being self-paced. Air Force analysis revealed that self-pacing was unsuitable for certain subjects, and for other subjects was not cost effective. Today, about ten percent of ATC's courses employ some form of self-pacing, and very few are completely self-paced.

      (4) The self-pacing of the Army Drill Sergeant's school has received wide criticism from trainers and commanders at all levels. Comments indicate that graduates are weak in interpersonal relationships and leadership skills which were subject areas stressed through practical application under the old methods.

    d. Evaluation and Control. An important factor in controlling the training process is determining the proper number of students to train in a given year. This data is needed to insure that the training centers are neither over- nor understaffed; and that there is neither an excess nor a shortage of trained individuals in specific MOS, NEC, or AFSC in operational units. The proper number of students to train is a complex function of many variables. Following is a list of computer simulator models that the services have independently developed to assist them in controlling input to SST courses.

      (1) Army. The Army Training Requirements and Resource System (ATRRS).

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(2) Navy. The Status Time Attrition Planning (STAPlan) model.

(3) Marine Corps. The Marine Corps Recruit Distribution Model.

(4) Air Force. The Pipeline Management System (PMS).

Although the forecasting problems are similar, the mathematical techniques and sophistication of the models vary widely, and similar input data do not produce consistent forecasts in all of the models.

Evaluation of the quality of SST is easier than the evaluation of recruit training. SST seeks to teach specific job related skills; not to instill attitudinal changes. Measurement and evaluation of the trainee's mastery of these skills is easily accomplished by a variety of methods. As is the case with recruit training, the Study Group finds that the services have established and are operating efficient internal feedback mechanisms. Control is such that training discrepancies are quickly noted and appropriately dealt with.

Again, formal external feedback mechanisms are not in existence; or are not adequately used. The Army has virtually no formal feedback mechanism. TRADOC has provided a little guidance and coordination, but basically each of the schools and centers treat external evaluation in their own fashion. Methods include such innovations as the "training hotline" over which training problems receive priority attention. Most Army endeavors in the field involve the schools and centers assisting units with specific training programs, with no institutionalized method for the units to feed back evaluations to the schools. CNET has developed a formal appraisal feedback system for "A" schools which is now being implemented. Until then, evaluation of SST will remain on an ad hoc basis between fleet units and specific schools. In the Marine Corps, the fact that a large amount of SST is accomplished in schools of the other services complicates the evaluation and feedback process. The absence of a centralized training command, such as is found in all other services, leaves the development and operation of feedback loops to the individual schools. The quality of evaluation and feedback processes varies from very good at MCCES, 29 Palms; to

very poor at some other schools. The Air Force has de-
veloped a systematic process which endeavors to evaluate
all courses over a three-year cycle. Expert trainers,
in conjunction with AFHRL personnel, design question-
naires. Response from the field normally exceeds ninety
percent. Each evaluation requires an excessive amount
of time to complete, normally eighteen months. The Air
Force is in the process of automating this evaluation/
feedback mechanism in conjunction with PMS.

The Army SQT is the unit commander's tool for the evalu-
ation of task performance and determination of skill
level. However, there is no current method to formally
track the individual's training progress development.
The Navy PQS serves the same function. In neither case
are the results of these evaluations readily available
to the training centers. The Marine Corps uses subjec-
tive evaluation to measure individual task performance.
In the Air Force, SQT and Career Development Courses
(CDC) measure individual skill and proficiency. Results
of both are readily available to training centers.

  e. Recommendations.

       (1) The services should conduct an ISD type
analysis to determine which specialized skill tasks
should be taught in the formal schools and which should
be exported to units. This analysis should be based on
the effectiveness of training, and not constrained by
budgetary or course length restrictions. Based on this
analysis, OSD should reevaluate the Consolidated Guid-
ance which requires maximum utilization of exported
training. This problem is not correctable by the indi-
vidual services under the current management system.

       (2) OSD should assist the services in resist-
ing external pressures to economize in the R&D process
at the expense of training. It is difficult for the
services to resist these pressures individually under
the current management system.

       (3) The services should continue to support
the efforts of ITRO and attempt to implement joint ser-
vice training wherever it is feasible. OSD should sup-
port ITRO, assist the services in consolidation of
training where feasible, and help them resist consolida-
tion when analysis determines that it is not feasible.

(4) The other services should investigate the Army's OSUT concept, and evaluate the possibility of adopting it where applicable to their training programs.

(5) Before adopting self-pacing, or any new instructional methodology, the services should conduct an analysis of it. They should follow OSD guidance and implement computer assisted, self-paced instruction only where feasible.

(6) ITRO should evaluate the four simulation models used by the services to forecast SST student requirements. If analysis indicates it is feasible to do so, a common methodology should be developed using state of the art logic and mathematical techniques. If a common methodology is not feasible, each of the services should be given the opportunity to adopt the best features of other service models.

(7) The services should establish or strengthen the feedback mechanisms from the operational units to the training establishments.

2-6 UNIT TRAINING

a. Introduction. All training conducted in units is classified as unit training. It is conducted on a continuous basis and includes both individual and collective training. Individual training is designed to increase preparation of a service member to perform specified duties and tasks related to an assigned MOS/NEC/ AFSC and duty position. Collective training is designed to prepare a group of individuals (crews, teams, squads, companies, squadrons, ships, etc.) for their wartime missions. The commander is entirely responsible for both individual and collective training of his unit.

Unit training is a complex, many faceted process. It is shaped to a considerable extent by influences outside the control of unit commanders. Training objectives are determined by the unit's operational mission and the nature of the enemy threat. Unit training is significantly influenced by personnel turbulence, the level of individual training possessed by incoming replacements, diversion of personnel from training, adequacy of training facilities and consumable resources, available time, and perishability of training skills. Unit training varies in magnitude from one-on-one individual training

to large multi-national joint service exercises such as REFORGER.

Implementation of unit training varies among the services because of their different roles and functions. For example, Army units do not deploy to operational areas, but are permanently stationed there. They are required to maintain a high level of training readiness at all times. On the other hand, Navy units go through a training, deployment, training cycle. Units are retrained in anticipation of the next deployment. Ship's training is peaked just prior to deployment, and sustained at that level while in the operational fleet. Thus, the Navy has the ability to train up, unlike the static high preparedness level required of Army units in Europe and Korea.

The majority of Army and Marine Corps training is conducted in units. Army individual training is based on the Soldiers Manual and is evaluated by the SQT. This is a complex and time consuming process since a maneuver unit may have as many as fifty different MOS, each having five skill levels. Low density MOS (one to five personnel in a unit) pose particular challenges. Frequently there are insufficient numbers of qualified and/or experienced trainers available in the unit to conduct the highly specialized and very technical training and testing. Collective training is conducted concurrently with individual training and concentrates on the training of crews, teams, platoons, and companies. In addition, battalions and higher level staffs train to control the tactical, logistical, and administrative aspects of battle. Training is expensive because weapons must be fired, vehicles operated, and units exercised in order to achieve combat readiness. Army and Marine units are stationed in Europe, Korea, and Okinawa, while many CONUS based ground units must be prepared for overseas commitment on short notice. Therefore, units do not enjoy the luxury of peaking for deployment, and training readiness must be sustained continuously. The Marine Corps is faced with an additional requirement for Mediterranean and Pacific deployment with the fleet, further increasing the complexity of their training readiness problem.

Because of the cyclic nature of Navy unit deployment (type training, deployment, back to type training), the Navy's unit training requirements can be accommodated,

timewise, more easily than those of the other services. The type training period, under the administrative and training guidance of the Type Commander (COMNAVSURFLANT, COMNAVAIRPAC, COMSUBLANT, etc.), is a time when Navy units prepare for operational assignment with a numbered fleet through concentrated individual and collective training. The unit undergoes refresher training, individual skill upgrading, safety and maintenance inspections and culminates in an Operational Readiness Evaluation. When the type training cycle is completed, the unit is at a peak of operational readiness/combat effectiveness and deploys to an operational area under a numbered Fleet Commander. During the deployment phase, usually 6 to 9 months, the unit will perform operational requirements, exercise operational capabilities as a part of a task force or as a single task element, and support US foreign policy through port visits/people-to-people programs. At the completion of the deployment cycle, the unit reenters the type training phase and once again begins training up in preparation for the next deployment. Overhauls, restricted availabilities, and increases or decreases to deployment periods may alter the timing of the cycle period, but will not cancel or postpone any portion of the requirements to be met in the cycle.

Air Force unit training also includes individual and collective training. Because of the support mission of Air Force enlisted personnel, most Air Force training is individual training. OJT is the primary method of conducting individual training and is the responsibility of the operational unit commanders.

Aircrews are formed and trained concurrently. Upon completion of training, aircrews are assigned to squadrons and training continues in order to improve individual skills and develop coordination between weapons system elements (flights of fighter aircraft or bomber/tanker refueling operations).

Periodic exercises are conducted to expand on training requirements and evaluate crew weapon system performance. Scenarios are developed to simulate combat in realistic situations. Examples are aircraft alert generation, sortie production within specified time, munitions movement and loading, and disaster preparedness. Larger exercises include air defense with target aircraft, unit deployment with airlift and air refueling

support, close air support training with Army units, and deployment to a "bare base" location.

b. Determination of Unit Training Objectives. Unit training requirements are generated from many sources: war and peacetime missions, reserve component training needs, activities associated with R&D tests, deployment requirements, installation support requirements, and socialization training. Socialization training includes defensive driving, sex education, race relations, drug and alcohol, rape prevention and similar training topics.

(1) Mandated Training. Most mandated training requirements come from outside the units. There is a tendency for these training requirements, once imposed, to proliferate and remain in effect indefinitely. Many of them are not pertinent to combat essential individual or collective training. In fact, they often compete with such training. One west coast Marine Corps regiment prepared a yearly training program in which it first scheduled training to meet mandated objectives. After taking into consideration weekends and authorized leave, it was the second week in October before training could be scheduled to meet combat related training objectives. In effect, it was impossible for this regiment to schedule training so as to adequately meet both combat and non-combat related training requirements.

A senior Army field commander found mandated, non-combat training requirements to be so disruptive to combat essential training that he dispatched the following memorandum to his subordinate commanders.

> "I realize that there are a
> number of other training sub-
> jects, both individual and
> unit, that are perceived by
> commanders as mandatory be-
> cause of guidance provided by
> headquarters external to this
> activity. Some examples are
> .... defensive driving, and
> human relations/equal opportu-
> nity seminars. While these and
> similar subject areas are obvi-
> ously important, each unit com-
> mander must determine the fre-

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quency and amount of training
given, based on his assessment
of mission requirements and
unit proficiency. Any 'gigs'
received for failure to conduct
such training will be absorbed
by my headquarters."

In an effort to control non-combat essential training
programs, the Vice Chief of Staff of the Air Force has
established Ancillary Training Review Panels at the Air
Staff and MAJCOM levels. Objectives of these review
panels are to:

      (a)   Implement a review of present train-
ing objectives.

      (b)   Establish procedures for approval or
disapproval of new training objectives.

      (c)   Develop a system to track training
costs for use in the budget process.

      (d)   Make recommendations as appropriate
on proposed training objectives.

The Ancillary Training Review Panels strive to insure
that all training objectives are coordinated, validated,
and adequately supported with resources.

      (2) <u>Exported Training</u>. The individual skill
level of service members sets the pace for the determi-
nation of unit training programs. If a unit has well-
trained persons in each duty position, then individual
training can be limited to sustaining training levels,
upgrading of individual skills, and cross training of
individuals to perform various duties or watch stations.
Conversely, if a unit does not have personnel fully
trained in their essential combat skills, then individ-
ual training must be devoted to correction of training
deficiencies. The greater the deficiency in individual
training levels, the more time and effort must be spent
correcting those deficiencies. Since replacements con-
tinuously flow into operational units, the amount of in-
dividual training required is critical in the determina-
tion of unit training programs.

Much individual training is now being deferred from the training base and exported to the operational units. The Army Training Circular on training management states the following:

> "It is important for the training manager to realize that the officers and enlisted men assigned to his unit have been given only the most basic instruction at schools or training centers. The private or second lieutenant reporting into a unit from institutional training is not qualified for every critical task he will be expected to perform.
>
> He will have to be trained for any job which requires more advanced skills. Lieutenants and captains must know how to do everything their men need to know plus be capable of conducting the collective missions contained in the ARTEP. Officers and NCOs must be familiar enough with administration, logistics and maintenance to be able to execute the tasks which they expect their men to perform--not merely supervise such activities.
>
> Officers are expected to improve professional skills largely on their own. The private does not have this flexibility and must take what the unit offers him. Therefore, the training manager has to arrange for the unit to reach out to the soldier, to insure that each knows and uses the instruments available to him to grow on the job."

The Air Force school system provides training to the semi-skilled level only for ninety-five percent of airmen. The unit of first assignment is responsible for

OJT programs to train them to full skill. The Navy conducts specific watchstation qualification aboard the sailor's first ship, with certain assigned duties conducted in accordance with the PQS.

Reasons frequently cited for exported training are efficiency, reduction in the pipeline training time, monetary savings in formal schools, and equipment availability. The Study Group finds the following problems associated with the concept of exported training.

(a) Exported training may lead to a false economy. Although costs in the formal schools are reduced, unit training costs usually increase. Exported training is often more expensive than school training.

(b) The quality of individual training in units is normally less than that in schools for that training which can be conducted in either place.

(c) The time and effort required to conduct exported individual training degrades combat effectiveness in units.

(d) Primary mission equipment (F-111, B-52, M60A2 tank, etc.) is diverted to support hands-on OJT to the detriment of mission availability and unit readiness.

(e) Some career fields have insufficiently qualified numbers of personnel in a unit to satisfactorily conduct OJT.

(f) Some units with a twenty-four hour operational mission (such as communications centers) cannot release either instructors or students during normal duty shifts. Therefore, exported training must be accomplished during off-duty time, and the OJT period is lengthened.

(g) Sophisticated training aids such as tank turret simulators, propulsion plants, part task trainers, etc. normally are not available in units.

Responses to the information requests indicate that operational units believe too much training has been exported to them. One response from the Marine Corps states:

"It is far better to conduct MOS
qualification training in a formal
school environment rather than
placing this burden on the operat-
ing units. Operational units do
not have the time nor the exper-
tise, in most cases, to accom-
plish initial qualification train-
ing. For example, heavy motor
vehicle operators, and tractor
trailer operators are currently
trained in the individual units or
through Field Skill Training con-
ducted by the operating forces.
Training continuity and standardi-
zation is impossible when a large
number of units are tasked to ac-
complish this type of training.

Additionally, when these training
requirements come in conflict with
the unit's mission, then training
suffers. In many cases, the natu-
ral reaction to this conflict is
to either take training shortcuts
or defer training altogether.
Either of these alternatives re-
sults in inferior or non-existent
training which produces individ-
uals who are not qualified to per-
form the tasks required by their
MOS. Even though motor vehicle
operation is considered a "soft
skill", the training required to
operate a 2 and 1/2 or 5 ton
truck under combat conditions, in
convoy and over a wide range of
terrain and climatic conditions is
extensive."

Training managers strive to insure that individual
training is programmed and resourced for the appropriate
activity (school or unit). The management problem is
to determine where training may be most effectively and
efficiently conducted. The cost of individual training
in units is significant, but is generally unquantifi-
able; while the cost of formal school training is quan-
tified in detail. Analysts can prove that savings can

be made by reducing training in schools, while the services cannot prove that the costs to the total training system are increased. The result is that savings are effected in P8T of the O&M appropriation, producing suboptimization of the entry level and SST subsystem to the detriment of the unit training subsystem and the total training system.

Even in those cases where analysis shows that export of training is desirable from an efficiency standpoint, it may be undesirable from a combat effectiveness standpoint. Combat effectiveness of units may be seriously degraded by large numbers of untrained or semi-trained personnel. The problem is of particular significance to units with quick reaction roles such as SAC air and missile crews, TAC air defense squadrons, Army and Marine units deployed in Europe and Asia, and Navy units deployed at sea. Little or no time will be available for these units to correct individual training deficiencies in emergency or wartime situations.

(3) Personnel Turbulence. For the purpose of this report, personnel turbulence is defined as the change of primary duty within a unit. Turbulence includes but is not limited to permanent change of station (PCS), transfer from one major organization to another at the same station, transfer from one subunit to another subunit in the same organization, and transfer from one duty position to another within the same subunit. The term turnover is also used to describe PCS. Thus, turnover is included in turbulence.

Turbulence is a fact of life in any large organization. Certain levels are desirable, as it helps develop adaptability of individuals and units under pressure. The commander who can successfully deal with turbulence during peacetime will be better prepared to deal with it in wartime. However, excessively high turbulence can cause significant problems for training managers. The movement or loss of one service member causes a chain reaction of other moves; resulting in requirements for additional individual training, requalification of teams or crews, and repetition of unit training evolutions.

All services experience significant turnover. The Unit Status Report (USR) indicates that Army turnover exceeds fifty percent per year in the combat arms. In a 1979 document, CINCLANTFLT reports personnel turnover rates

in excess of fifty percent. The Air Force also reports
turnover in excess of fifty percent. In response to
CETRM information requests, many Marine Corps units re-
port turnover in excess of one-hundred percent, with
some units in excess of two hundred percent.

A recent HumRRO study quantified the impact of personnel
turbulence on Army training programs. Findings indicate
that turbulence rates are more than double turnover
rates, and increase as unit size decreases. In a four
month test period, twenty-four percent of the soldiers
left their assigned company, while sixty-four percent
left their squads or changed duty position within the
squad. Marine Corps data reflects similar problems.
Annual turnover rates for division size units exceed
fifty percent, while for companies it exceeds ninety-
five percent. The Army Tank Weapons Systems Management
study also found turbulence to be excessive, causing an
adverse effect on tank crew training.

The issue is not turbulence, which is unavoidable, and
to some extent desirable. The issue is the effect that
turbulence has on unit training and combat effective-
ness. The unit training manager develops training pro-
grams around known PCS moves and planned internal post-
ings due to skill upgrading and promotions. Yet, high
turbulence, exported and mandated training requirements,
and diversion of assigned troops to base support func-
tions, all combine to reduce the effectiveness and effi-
ciency of unit training and combat effectiveness.

     c. <u>Development of Unit Training Programs</u>. The
skills of the training managers and the proficiency of
the trainers are some of the most critical aspects of
effective unit training. Training managers are respon-
sible for the planning, organization, conduct, and
evaluation of training, to include the development of
training programs. The battalion, squadron, ship or
equivalent commanders are the principal training man-
agers. It is at this level and below that unit training
actually occurs.

While the training management responsibility rests on
the commander's shoulders, the operations/training offi-
cer at each level of command plays a significant role in
the management process. Much of the detail involved in
the long-range and day-to-day implementation of the
training program falls within his purview as he advises

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and makes recommendations to the commander on training matters. A major problem is that the training management responsibility saturates the training staff, particularly in operational units which are organized along operational combat manning levels.

Further, there is no system to insure that the staff training managers are properly trained and qualified. In the Army Division, there are no prerequisites for the Assistant G3 Training Officer other than that he be a combat arms officer. His duties require that he monitor the training for as many as 26 combat, combat support, and combat service support battalions ranging from administration, maintenance, supply and transportation, intelligence, engineer, and signal to aviation, cavalry, artillery, infantry, and armor.

To further aggravate the situation, there is no guarantee that he will be a graduate of either the Armed Forces Staff College or the Command and General Staff College. Similar situations exist in the Marine Corps and Air Force. In addition to the need for increasing the number of training management staff billets, prerequisites must be established for each billet. Personnel must be assigned who meet the requirements of the job or else they must be trained.

Numerous studies have been conducted on OJT/Individual MOS/NEC training. Individual training in operational units is an area requiring continued emphasis. Two aspects of individual training which require additional attention are training the program manager and training the trainer. As a result of the study group's extensive visits and interviews, the following observations are made:

(1) The administration of individual training is poorly managed in units.

(2) Individual training receives little real command emphasis except during training crises.

(3) Training observed in some units was not well organized and was not effective. Training aids were frequently not present or were out of date.

(4) Trainers are occasionally not prepared or not fully competent.

(5) Hands-on performance oriented training needs continued emphasis.

The Air Force has two initiatives which have helped their OJT programs. One is the use of Air Training Command personnel in operational units. ATC provides a Field Training Detachment (FTD) which trains maintenance personnel on a specific air frame or piece of equipment. The Navy has a similar version of the program. Secondly, the Air Force has formally trained OJT managers in each squadron. The OJT manager is charged with assisting the commander in the administration and conduct of the OJT program. In turn, the OJT manager works with the Consolidated Base Personnel Office, which provides central direction to the program.

In part, the turnaround in the Air Force OJT program since a critical 1977 Air Force IG Report can be attributed to its OJT managers. The Air Force is the only service which has full-time OJT managers. Further, the Air Force has the only formal OJT management courses such as the ATC's OJT Trainer Orientation, OJT Manager/ Supervisor Orientation, OJT Manager Orientation and Commander/Staff OJT Orientation. Trained OJT managers in each service would contribute to better OJT programs, and could assist commanders in achieving high standards of training.

Commanders/training managers provide the environment for good training; but in the end, it is the trainer who must impart individual and collective knowledge and skills. To accomplish the training objective, the trainer must be prepared; he must be trained before he can conduct effective training. Some programs designed to prepare individuals as unit trainers are:

(1) Formal training in the presentation of military instruction (methods of instruction).

(2) Previous technical training.

(3) Continuing professional education and training.

Almost all service schools require incoming instructors to attend a methods of instruction course; however, most operational units do not have such a program. The trainer's technical proficiency in a subject is a func-

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tion of experience, schools from which he/she has gradu-
ated, and from self-study. Career NCOs require a for-
mally constituted program of training and education,
containing both school and correspondence instruction to
prepare them for career progression. Each service has a
program, but varying degrees of emphasis are placed on
them. In the Army, the Non-Commissioned Officer's Edu-
cation System (NCOES) will require considerable addi-
tional funding to effect full implementation as cur-
rently envisioned. In the Navy, the Leadership and Man-
agement Education and Training program was directed for
full implementation during FY 1979. The Marine Corps
does not have a systematic education process for NCOs.
It has several NCO development courses. However, they
are not part of a coordinated education system. The
Staff NCO Academy POI's are approved by HQMC. Other
NCO schools are unit sponsored with local development of
POI's, raising the possibility of duplication or omis-
sion of subject matter. Quality of instruction and re-
source allocation varies between schools. The Marine
Corps Institute extension courses are available, but are
not integrated into a complete education system. Fi-
nally, these individual elements of an NCO educational
system are not integrated into the enlisted promotion
system. For an in-depth treatment of Marine Corps pro-
fessional education, see An Analysis of Marine Corps
Training by the Naval War College Center for Advanced
Research. The Air Force Professional Military Education
System provides leadership and management training for
ranks between E4/E9. The program has five phases. The
Senior NCO Academy is for the top two enlisted grades
and is a significant factor in the professionalism and
retention of senior enlisted personnel. Attendees incur
a one-year service obligation even though over ninety
percent are eligible for retirement. Figure 2-10 shows
the retention rates for Senior Academy graduates.

    d.   Implementation of Unit Training Programs. In
addition to the previously discussed need for competent
instructors, there are other areas of concern which af-
fect the implementation of training programs. These
areas are training absentees, inadequate training areas/
airspace, and the reduction of flying hour/training funds
in P1, P2, and P4 of the O&M appropriation.

        (1) Training absenteeism occurs for a variety
of reasons: base support requirements, TDY, schools,

Table 2-10. Retention Rates, Senior
NCO Academy Graduates

Year	Percent Retention
1973	46%
1974	58%
1975	72%
1976	79%
1977	95%
1978	95%

leave, medical reasons, etc. Units observed by the study group in CONUS had one-third of their assigned strength absent from training. Some absenteeism is unavoidable, and some is caused by inefficient management. However, a significant amount of absenteeism is a direct result of the recent reductions in the size of the civilian work force. The requirement to provide essential services and base support has not decreased with the decrease in civilian workers. However, it must now be fulfilled by active duty service members, who do so at the expense of combat training. FORSCOM data indicates that in excess of 10,000 soldiers per day are being diverted from training to base support activities. HQMC reports that 107 officers and 1,222 enlisted persons daily are diverted to the fleet augmentation program (FAP) in FMFPAC. FAP provides a manpower pool to provide base support for Marine and Naval installations. Again, the work is accomplished at the expense of combat training. The Study Group can point to such examples as a service member who was paid a large reenlistment bonus in a critical combat MOS working in the transportation motor pool, or an NCO supervising a detail in the inventory and issue of rations to mess halls. Another aspect of the reduction in the civilian work force was graphically illustrated by the recently completed mobilization exercise "Nifty Nugget".

        (2) Training areas and airspace available to U.S. Forces stationed overseas are extremely limited, widely separated, and hindered by weather restrictions. Their use is further restricted by foreign ownership or the requirement for allied use of the areas. Existing facilities are already overtaxed with current unit densities and weapons systems. With the advent of new longer range weapons, current range fans will be greatly

exceeded. Available land space is simply not adequate
to support training on the new systems being acquired by
the services.

Experience in combat has shown that the chances of air-
crew survival and success increase dramatically during
the first ten combat missions. At Nellis AFB, NV, in
Red Flag Exercises, the Air Force has realistically sim-
ulated all phases of the air battle to include enemy air
defense and electronic warfare, and an enemy air force
which flies aircraft similar to Russian aircraft using
Russian fighter tactics. Red Flag realistically simu-
lates "the first ten missions". Unfortunately, overseas
facilities do not exist for such training. Adequate
geographic land and airspace areas are not available.
For example, in the Federal Republic of Germany, air-
space regulations do not permit both low level and su-
personic flight at the same time and place. Live weap-
ons delivery is restricted by lack of range space, is
done in isolation of other training because of range lo-
cations, and is done non-tactically because of flying
restrictions.

The Army and Marine Corps face similar problems in Ger-
many and Okinawa respectively. Table 2-11 shows the ca-
pability of European training areas to support small
unit ARTEP tasks.

Table 2-11. Capabilities of European Training
Areas to Support ARTEP Tasks

Training Area	Tank Plt ARTEP	Mech Plt ARTEP	Arty Btry ARTEP
Grafenwoehr	Yes	Yes	Yes
Hohenfels	Limited	No	No
Wildflecken	No	No	Limited
Baumholder	Yes	Yes	Limited

As new weapons systems are placed in units, the training
area capabilities will decrease. The infantry squad
formerly carried short-range weapons, but this is no
longer so. With the advent of the Infantry Fighting
Vehicle (IFV), Tow and Dragon Missiles, etc., safety
buffer zones have expanded dramatically. Figure 2-5
shows a range fan comparison for the current armored

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personnel carrier and the infantry fighting vehicle,
which is now under development.
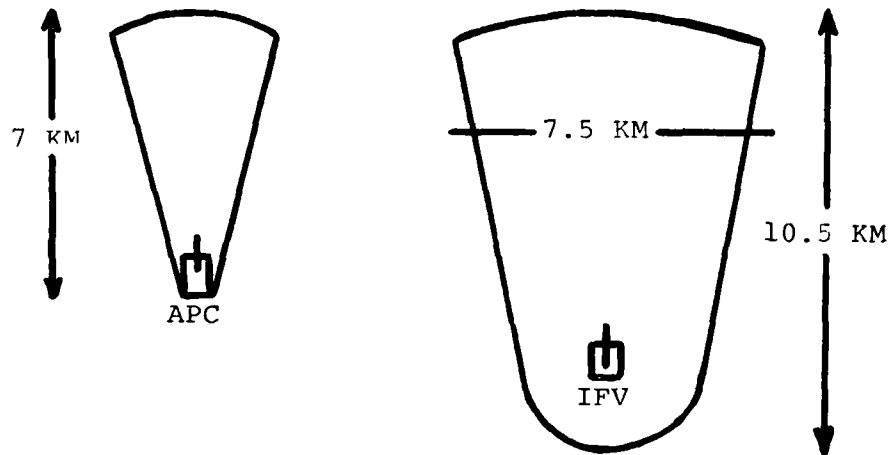
Figure 2-5.   Range Fan Comparison

The range fan problem is only the tip of the iceberg of
training area problems caused by new and more destruc-
tive weapons.   Other problems include revision of host
country agreements, maneuver rights, night training re-
quirements, training resources, safety restrictions, and
environmental considerations.

The Navy faces similar problems in the Mediterranean.
Although it can perform some training in the open ocean,
it lacks space to conduct amphibious operations, shore
bombardment, close air support, air ground weapons deli-
very, and shallow water mine warfare.   Previous comments
about the Air Force range and airspace problems and
ground units' new weapons system problems apply equally
to the Navy.

No easy solutions to these problems exist.   Acquisition
of land and airspace is beyond the capability of the
services.

    (3)   The flying hour programs of the services
have been constantly reduced during the post-Vietnam

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period in the interests of fuel conservation and budgeting constraints. The impact of these reductions is difficult to quantify. In the Air Force, flying hour programs originally established as the minimum requirements to maintain aircrew currency have now become ceilings for flying time. The situation is aggrevated by the exodus of experienced aircrew members (five to eleven years' service). Thus, the services are faced with the situation whereby a less experienced aircrew member progressively receives less flying time, resulting in an overall decrease in combat effectiveness.

In order to maximize available flying hours, TAC has initiated a program called Graduated Combat Capability (GCC). This program sets priorities on combat training objectives, and assists managers in making adjustments to training programs as flying hour programs vary. When flying hours are reduced, all crewmembers cannot maintain proficiency in all combat missions. Therefore, some crewmembers are not trained for the full spectrum of combat missions. GCC matches resources and requirements for efficiency but does not insure a totally effective force. Some, but not all, of this reduction in training can be made up through the use of simulators. When flying hour programs are reduced, training to meet specific objectives is reduced accordingly.

Aircrew training cannot be looked at in isolation. The aircrew is only part of the total aircraft system. Sufficient hours must be flown in order to exercise all components of the system. The components include maintenance, aerial port operations, munitions, base operations, air traffic control, refueling, command and control, etc. Flying hours are not generated specifically to exercise these components. Yet the component cannot maintain an acceptable level of proficiency unless adequate flying is performed. For example, the Air Force bases queried reported a requirement of between thirty and fifty radar approaches per month per radar controller to maintain proficiency. A pilot can accomplish a large portion of his instrument flying requirements in a simulator. There are no simulators in units for air traffic controllers. A systematic approach for OSD and OMB to review flying hour programs is needed.

Operational units work from training plans. Accurate plans facilitate efficient allocation of resources and preparation for major training events and exercises.

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Long-range plans seldom have the required accuracy.
Information request responses and interviews indicate
that training managers view them only as a point of de-
parture for change. They are seldom developed in con-
cert with realistic appraisals of requirements and re-
sources. Troop lists for major exercises and deploy-
ments are not determined in time for units to properly
plan. It is not unusual for major unit changes to be
made within ninety days of an exercise. Deleted units
often are unable on short notice to schedule ranges,
ammunition, etc. to support home station training re-
sulting in either lost or less effective training. On
the other hand, units added to the exercise list on
short notice are unable to properly prepare, and do not
gain full training benefit from the exercise or deploy-
ment.

Training plans seldom make provision for time to correct
shortcomings. Frequently, resources have been so fully
committed for scheduled activities that none remains
for corrective training. The result is that units, al-
though aware of training deficiencies, are unable to
correct them for lack of resources or time.

     e. Evaluation and Control. Control of unit
training requires consideration of the complex issues
previously addressed. Since training is the glue which
binds personnel and material together to form combat
effective units, decisions must be made only after a
full analysis of the effect they will have on the whole
system and on the combat effectiveness of the force.
To make these decisions, information must flow up and
down the chain of command, move laterally between
staffs and equivalent levels of organization, and accu-
rately represent current and future events.

Evaluation of unit training may be conducted in a vari-
ety of ways. It may be formal or informal, internal or
external, announced or unannounced. Some evaluations
are conducted as part of a systematic process such as
ISD. Others are conducted as required by local direc-
tive.

All services have a system in being to evaluate a unit's
training status. As discussed previously, the Army
uses the ARETP, the Navy uses ORE/I, the Marine Corps
uses MCCRES, and the Air Force uses ORI. In the Navy,
ORE/ORI are conducted prior to deployment by the unit's

immediate superior. Results are available to the fleet commander for his use. In the Marine Corps, MCCRES is administered by the FMF commander's representative with reports made to the Commandant. In the Air Force, external ORI are conducted by the Air Force MAJCOM IG or by stan-eval organizations at various levels. Results are directly fed back to the MAJCOM level.

The Army and Marine Corps experience difficulties in measuring the outcome of opposing force engagements. Realistic simulators and adequate instrumentation are not available. First generation measurement tools, such as SCOPES and REALTRAIN, are limited to the evaluation of one or two platoons at a time, lack realism, and require a large amount of manpower to administer. The Army is currently developing the Multiple Integrated LASER Engagement System (MILES). MILES should provide a significant increase in measurement capability.

During the past five years, the Army has developed and implemented the Army Training and Evaluation Program (ARTEP). Basically, the program sets forth the tasks, conditions, and standards necessary for success in combat for each type of unit in the Army. Training managers can plan, organize and evaluate training against published and definitive goals. Evaluations should lead to corrective and sustainment training which brings the unit to and maintains it at the desired level of training proficiency. The level and completeness of the evaluations are to be tailored to the training needs of the unit. Fixed time evaluations such as annual Operational Readiness Tests, etc. are not part of the program.

Results of formal, external evaluations to ARTEP standards are not reported through the chain of command to the Army Staff. Reporting has been deleted in an effort to prevent undue competition from entering the evaluation process. The desired emphasis is on candid, in-depth evaluations which lead to realistic, valuable training and produces combat ready units. However, decision makers at the MACOM and DA are left without accurate unit training assessments from which to manage.

Measurement and reporting of unit training status is necessary. A system must be established which includes

external evaluations with adequate support; i.e., op-
posing forces, maneuver space, training ammunition, etc.
The National Training Center (NTC) is under development
and could provide an external evaluation of selected
FORSCOM units as well as a link to the Army Training
Manager and the remainder of the Army Staff. USAREUR
and EUSA units should be evaluated as well, either at
the NTC or in their respective commands, but by the same
group that does the evaluations at the NTC. All train-
ing managers must have access to the results of the
evaluations to include TRADOC schools/agencies and the
various research institutions. Such an evaluation and
feedback system would provide realistic and timely in-
formation to decision makers to help prioritize pro-
grams, establish policies, and allocate resources.

   f.   Recommendations.

      (1) OSD and each of the services should
institute Training Review Panels to:

            (a) Review all imposed/directed training.

            (b) Insure that training requirements
                 are coordinated.

            (c) Validate need and scope of programs
                 and target groups.

            (d) Verify adequacy of resource alloca-
                 tion to support imposed requirements.

            (e) Audit training programs.

            (f) Impose "sunset" time limits on each
                 program.

      (2) The OSD staff working closely with the
services should reverse the trend of exporting training
to units. Decision makers and budget analysts must be
sensitive to the long-term impact that exporting train-
ing can have on unit readiness.

      (3) Training implications of all policies
should be considered in the decision making process
within OSD by staffing through a training office.

      (4) The services should review their manning
authorizations to insure adequate numbers of unit

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training management positions, establish adequate pre-
requisites, and insure that personnel assigned meet
those prerequisites.

(5)   The services should upgrade where neces-
sary their OJT/MOS training program.

(6)   The services should review and in some
cases establish programs for NCO education and training.

(7)   OSD, working closely with the services,
should insure that reductions in base operating support
will not result in training absenteeism. In particular,
changes imposed on base support which eliminate/curtail
essential operations during peacetime and mobilization
must be carefully considered with respect to the entire
system.

(8)   OSD should establish a joint service
study to address the inadequacy of training areas/
airspace for deployed forces. The study mandate should
include a need for initiatives to solve problems or find
new alternatives.

(9)   The services should focus additional
effort on the development of long-range training plans
with deployments, overhauls, exercise troop lists iden-
tified well in advance.

(10)   OSD and the services should insure that
in establishing flying hour programs, full consideration
is given to the entire system, and to the effect that
flying hours have on readiness.

(11)   The Army should develop a comprehensive
training readiness evaluation and feedback system which
will provide the decision makers at all levels with ap-
propriate, realistic and timely information on training
status.

(12)   OSD should support the Army's initiative
in establishing the National Training Center.

2-7   TRAINING PROGRAMMING AND BUDGETING

a.   PPBS. Funds to support training are derived
from many budget appropriations: Military Personnel,
Military Construction; Procurement; Research and Devel-

opment, Test and Evaluation; and Operations and Maintenance (O&M). O&M is the principal training appropriation and provides funds under the following programs: Strategic Forces (P1); General Purpose Forces (P2); Air/Sealift (P4); Research and Development (P6); Central Supply and Maintenance (P7); and Training, Medical, and Other (P8). Maintaining the proper relationship between these appropriations is complicated by the failure of OSD, OMB and Congress to fund training as a system. In addition, training functions are fragmented within the OSD staff, and the services fail to quantify the relationship between training costs and unit readiness.

Within the OSD staff, training operations are not viewed in terms of the total system described earlier. Training normally is considered only in the context of individual training, almost exclusively that which is conducted in a formal school environment. This year's OSD Consolidated Guidance did not address many important aspects of unit training such as training development, training facilities, simulation devices, joint training, and other components of the training system. Like manpower, logistics, and research and development, training cuts across all aspects of defense planning. Yet, unlike them, it is not treated as a separate item in the Consoldiated Guidance. In turn, decisions made in the Program Decision Memorandum (PDM) and the Amended PDM are not always followed in the budget cycle. This occurs because the programming and budgeting decisions are made independently in different offices. (Rice in his Defense Resource Management Study titles this phenomenom "Decisions Revisited"). In the services, program and budget interfaces have been enhanced by the combination of the formerly separate program and budget review panels/committees.

Because training is expensive, there is a tendency to take a narrow view of requirements; to train to the minimum level to meet minimum task requirements. Decisions on priorities and, in turn, on funding are made without complete analysis. Changes in P8T have significant effects when they require additional individual training in units.

Decisions concerning P1, P2, and P4 of the O&M appropriation are made without due consideration for ongoing P8T actions. Apparent efficiencies and savings in one program may not be real since they require training to be

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shifted to another and possibly less efficient mode. Military Construction and Training Ammunition Appropriations have long-term effects on training. Similarly, reductions in base support operations increase required training time since troops must be diverted from training to other functions.

Analysis of the total system is further complicated by the complexities of relating cost to unit readiness. Studies and other efforts have been directed towards finding an answer to: "What does readiness cost?" However, these efforts have been fragmented within the individual services. Although it is clear that costing the elementary aspects of unit training must be accomplished first, combined arms training, amphibious training, and joint training must be included in developing an answer to the problem. There is a lack of centralized direction by OSD.

The FY 1979 DPS 40/20 is a good example of the long-term and far reaching impact decisions on one part of the training system can have on the system as a whole. The reductions imposed affected schoolhouse training, primarily specialized skill training, without full analysis of the affects on the total system. The services' reclama, requests for restorals, and justification in subsequent POM documents show the long-term disruption to training.

   c. Recommendations. PPBS problems are not solvable by the individual services under the current management system.

      (1) OSD should fully implement the PPBS recommendations contained in the Rice study on Defense Resource Management. Specifically:

         (a) Combine the traditionally separate program and budget reviews into a single annual review.

         (b) Establish a Defense Resources Board, chaired by the Deputy Secretary of Defense, to manage the combined program/budget review.

      (2) OSD should realign staff functions to insure that training is treated as a total system in the programming and budgeting process.

(3) OSD should reorganize the format of the Consolidated Guidance to include treatment of the training system as a separate entity.

(4) OSD should commission a joint service study to determine the best methods to equate training costs and readiness and to formulate a coordinated plan for implementation which provides cohesion and direction to the separate service efforts.

2-8 TRAINING RESEARCH AND DEVELOPMENT. Research and Development programs in the field of training and personnel technology strive to improve the capability of the services to select, train, manage and support the force structure in an efficient as well as effective fashion. Training personnel technology programs account for about four percent ($125 million) of the total Science and Technology (S&T) budget.

a. Program Organization and Management. Training and Personnel Technology research programs are conducted by the service laboratories (Army Research Institute, Naval Personnel Research and Development Center, and Air Force Human Resources Laboratory). The Deputy Under Secretary of Defense for Research and Advanced Technology (DUSDR&E) monitors the activities of and provides guidance to the Service Laboratories. Their research activities have been organized so that programs may be conducted, managed, and reported to Congress utilizing a common structure. The four research programs are:

(1) Education and Training

(2) Human Factors

(3) Simulation and Training Devices

(4) Manpower and Personnel

Approximately twenty percent (about $25 million) of the training and personnel technology budget is directed towards the education and training program. The other three programs also have an impact on the areas of training and training management.

Recently, the three Service Laboratory Commanders and Technical Directors met with representatives of DUSDR&E (the OSD agency with staff responsibility for the labs)

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and MRA&L (a major OSD user of their research) to foster coordination and cooperation between the five organizations. A significant result of this meeting was the agreement that all research projects would be conducted, managed, and reported according to a matrix which relates DOD training issues and research requirements to one of the above four research program. Tri-service Technology Advisory Groups (TAG), consisting of laboratory personnel, have been established to improve coordinated efforts in each of the research program areas. In addition, DUSDR&E and MRA&L are currently developing a formalized working relationship to insure that R&D efforts are understood by the makers of manpower policy, as well as being responsive to their requirements.

DUSDR&E has also restructured the format of the training and personnel technology conferences. These conferences serve as a forum for the users of training technology to elaborate their requirements to the research community, and to review and comment on new technology under development. Furthermore, these conferences encourage cooperative efforts between users and the research community to implement practical applications of new technology as it is developed. A major result of this year's conference was the establishment of a coordinated R&D program for Computer Adaptive Testing (CAT) under the direction of the Navy. As mentioned previously, Air Force Human Resources Laboratory (who has the responsibility for ASVAB) is working cooperatively with the Navy to develop a CAT vocational testing program for the services.

At the service laboratory level, several steps have been taken to improve the management of their research programs. The laboratories have scheduled regular coordination meetings of the Commanders and Technical Directors. Research plans, requests for proposals, and draft study reports are circulated among them for coordination and comment. The Study Group finds that in addition to institutionalized improvements in the formal communication and coordination network, the informal network has also improved markedly, resulting in improved communication and sharing of information by the laboratories.

    b. R&D Management Issues. As the above discussion indicates, recent and current management initiatives at all levels have greatly improved the conduct of training and personnel technology research programs, as well as

the interaction between policy makers, the research community and the users of the new technology. In spite of these initiatives, however, there are several problem areas in the conduct and management of the research programs which are worthy of comment:

      (1) Development of the current structure for the management of training R&D required considerable tasking of service laboratory resources. Yet, the total management system is not complete. It lacks a state-of-the-art management information system (MIS). The value of a good MIS to managers is well documented. The MIS should serve as a central repository for data and research results produced by the three laboratories. It should also have the capability to access data banks of other appropriate agencies, and should permit rapid data retrieval by researchers. Tasking the Service Laboratories to manage the development, acquisition, and implementation of a MIS would detract from their ability to perform their primary research mission.

      (2) Each of the Service Laboratories has its own formal procedure for obtaining research requirements from operational units. Feedback from the units is required if the Laboratories are to initiate research which is responsive to their needs. Unit commanders are faced with "here and now" problems and with meeting current requirements. They need assistance in solving current problems, not future ones. Therefore, most feedback received from units in the field concerns issues that require immediate or near term solutions. This often results in conflicts between user requirements and Laboratory mission mandates, since they are tasked and funded to undertake R&D efforts for the resolution of future problems through the development of new or improved technology. The problem is further exacerbated by the fact that the individual who initiated a research requirement has departed and/or events have overtaken the requirement by the time research is planned and initiated. Often the continuity of the R&D effort is disrupted by changes in budget support, or by changes in command interest or emphasis.

      (3) Education and training research projects of necessity involve people, and usually take place in units. The unit commander rightly perceives his primary mission as the production and maintenance of a combat effective unit in accordance with current procedures.

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Training research often results in the modification of those procedures, and normally requires a change in human behavior. Support of such research is often viewed by commanders as a detriment, and is not given a high priority. They will generally permit modifications of established procedures and changes in human behavior within their unit only so long as they believe that the modifications and changes will not have an adverse effect on their primary mission.

(4) The Study Group finds that training research has generally been evolutionary and low risk in nature, with little potential for major improvements. Most training research focus on Recruit and Specialized Skill Training as conducted in the institutional school environment, as opposed to the individual and collective training as conducted in the unit environment. Units are frequently unaware of the technology available to assist them in training, and researchers are often unaware of unit requirements. There is a paucity of research on the evaluation of unit training, and virtually none on the measurement and evaluation of combat effectiveness. The recent increase in research on evaluation techniques and procedures has again centered on the school rather than the unit training environment.

(5) The transfer of new technology from the research community to the user continues to be of major concern. If the full potential of training research is to be realized the transfer function needs to be improved. The following general conclusions may be made concerning putting the results of training research to practical use.

(a) At the completion of a project, the research community rarely documents in detail the time, money, or changes required to implement research findings; or the benefits that can be expected from them.

(b) The closer that the intended user has cooperated and worked with the research team, the greater the likelihood that he will accept and implement the research findings.

(c) If the research findings on new instructional technology is associated with a newly developed system, acceptance and implementation is more

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likely than if the program concerns general technology or revision and modification of existing systems.

(d) Systematic change resulting from training research is unlikely unless major commanders actively support and participate in it.

Research findings can seldom be transferred unaltered to the users. Adaptation, testing, and modification are usually required to insure that findings are practical and useful in the field. R&D in the training area currently has no funding category for testing and evaluation.

c. Recommendations.

(1) DUSDR&E should establish a central repository for data produced by the service laboratories.

(2) DUSDR&E should commission a series of research projects to develop methodologies to evaluate unit combat effectiveness.

(3) The training and personnel technology budget should include funds to permit the test and evaluation of research fundings, and for their implementation.

(4) The authority to task the research efforts of the service laboratories should be placed at a high enough level to insure that projects are coordinated, appropriate, supported, and transferred to units for implementation.

CHAPTER 3
MANAGEMENT IMPLICATIONS

3-1 INTRODUCTION. Chapter Two discussed the major operational problems observed by the Study Group in the training systems of the four services. Minor problems were discussed directly with the organization concerned. Some of the major problems are solvable internally by the service concerned. However, as has been pointed out, there are many training operations problems which are not solvable within the individual services with their current management organization. They may be too complex for the services to solve, they may cross service lines and require the combined efforts of two or more services to solve, or they may be caused by external influences outside the ability of the services to control. This chapter discusses the need for a total systems approach to training management, defines the requirement for a viable training management organization, and describes the current training management organization within OSD and the services. This discussion, when coupled with the training operations findings of Chapter Two, points to several unresolved training management issues. Recommendations to the Secretary of Defense for the resolution of these issues are made at the end of this chapter.

3-2 THE TOTAL SYSTEM PHILOSOPHY.

    a. System Definition. It is difficult to completely comprehend or define any of the many systems that make up the military services. A system at any level of definition is a component of some still larger system, and is at the same time composed of a number of smaller subsystems. Thus the training system is only one of many systems (logistics system, maintenance system, R&D system, material acquisition system, etc.) that combine to make up the military services. At the same time recruit training, specialized skill training, and unit training may be recognized as subsystems of the training system. The military training system is composed of people, facilities, and equipment whose primary purpose is the production and maintenance of combat effective units. Since the training systems of all services share this primary purpose, their training management may be examined with a common methodology; even

though their roles, functions, structure, and doctrine
are different. The relationship between the effective-
ness of the training system and the combat effectiveness
of units is not a direct one. An effective training
system will not insure a combat effective force if man-
ning levels, equipment maintenance, logistics support,
doctrine, etc. are deficient. On the other hand, an in-
effective training system will invariably insure degra-
dation of combat effectiveness. Despite the complexity
of employing the total system philosophy in the manage-
ment of training, the Study Group finds this methodology
to be essential. The failure to recognize the interde-
pendence of the training subsystems, and to manage them
accordingly, has led to many of the operational problems
discussed in Chapter Two.

   b. Components of a Viable Training Management Sys-
tem. The managers of training must perform the same
classical functions as the managers of any other enter-
prise.

   1. Planning involves the development of
training objectives as determined by doctrine, force
structure, and equipment; the measurement of the current
training status of individuals or units; and the compar-
ison of that status with a desired training standard.

   2. Organizing involves the development of
training programs, the allocation of resources, and the
preparation of instruction and facilities designed to
accomplish the desired training objectives.

   3. Staffing involves the selection, training,
and assignment of personnel as training managers and/or
instructors.

   4. Directing involves management of the con-
duct of training designed to meet desired training ob-
jectives.

   5. Controlling involves evaluating training
status and combat effectiveness; providing feedback on
the evaluation throughout the training management or-
ganization; and effecting changes to training objec-
tives, resource allocations, and training content as re-
quired.

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If the managers of training properly perform the above listed functions, the following three conditions will prevail throughout the organization.

1. Managers will make decisions concerning the determination or revision of training objectives or content based on an objective evaluation and analysis of individual or unit performance.

2. Managers will allocate available resources based on an objective evaluation and priority analysis of requirements to meet desired training objectives.

3. Managers who are held responsible for meeting training objectives will have control over the required training resources.

A viable training management organization will be capable of performing all five of the classical management functions. This statement has significant implications for the military services because it implies that unless management of the total training system has control over all five functions, optimum training management cannot be achieved.

3-3 CURRENT TRAINING MANAGEMENT ORGANIZATIONS. Organizationally the services tend to focus their management efforts inwards towards their individual training problems. OSD tends to focus its management efforts outwards towards OMB and Congress. There is no analysis or evaluation of the combat effectiveness of the services by OSD. While the National Security Act of 1947, as amended, charges the Secretary of Defense with the overall operation and management of the Department of Defense, he has no Congressional mandate in the area of military training or training management. The services have been made specifically responsible for the administration, training, and logistic support of their forces.

a. OSD. Historically, OSD has not involved itself in the management of training. Recent Congressional initiatives and DOD budgetary responsibilities are leading OSD to take a greater interest in training matters. The Deputy Assistant Secretary for Program Management under MRA&L has the primary staff responsibility for training and training management within OSD. He accomplishes this through the Training and Education (T&E)

Directorate. The T&E Directorate consists of a director, a senior operations research analyst, and four action officers. The only document which could be found describing its functions is the job description of the Director. It is couched in very general terminology. A review of current DOD instructions relating to training management shows them generally to be outdated. A case in point is DOD Instruction 1100.4, "Guidance for Manpower Programs". This instruction has remained unchanged since its publication in 1957. The policy guidance contained therein is also in broad general terminology. While probably adequate in the fifties, it is completely inadequate to guide management in the seventies and eighties. The Study Group finds that the action officers of the Training and Education Directorate, while qualified analysts, have little recent operational or training experience. Therefore, the functions of the Directorate are not accomplished as effectively as they might be. The Directorate appears to have assumed functions over a long period of time without a cohesive definition or review of policy, functions, or staffing requirements. At present the major functions of the Directorate are to:

1.   Prepare the MMTR.

2.   Manage officer acquisition, and recruit and specialized skill training.

3.   Monitor the Veterans Educational Assistance Program.

4.   Manage NATO Training Rationalization.

5.   Review the reports of the Boards of Visitors of the Service Academies.

6.   Monitor the ROTC Program.

7.   Monitor the Defense Management School System.

8.   Participate in the POM and Budget Review Process.

9.   Prepare Congressional testimony and response to inquiries.

Other functions that the Directorate believes it should be more involved in include all aspects of: Unit Training, Pilot Training, Joint Training, Professional Development Education, mobilization capacity, and the evaluation of training base operational efficiency. The present manning level within OSD is inadequate to perform the current functions, much less the desired ones.

b. Army. Training management in the Army is vested in the Director of Training at DCSOPS. He accomplishes this in three functional areas: individual training, unit training, and training support. Since the total training system cuts across many organizational lines, an important additional function is coordination between DCSOPS and DCSPER, MILPERCEN, USAREC, etc. TRADOC is the organization which is responsible for managing institutional training, developing training doctrine, and providing support for unit training. Although TRADOC is not responsible for unit training, it produces training programs, simulators, tests, and other material in support of the exported training concept. The TRADOC management system is basically decentralized. TRADOC provides policy guidance and resources to its schools and centers, who develop and conduct recruit and specialized skill training programs. The operational commands (FORSCOM, USAREUR, and Eighth Army) are responsible for unit training and evaluation. While TRADOC provides the doctrine and training materials; the operational commands provide the resources, time, and trainers for unit training. Other MACOM (DARCOM, INSCOM, USACC, HSC) perform institutional training separately from TRADOC, although they generally follow its training doctrine. There is no organization within the Army which manages the total training system through the execution of the five classical functions of management.

c. Navy. The Navy staff is being reorganized to place manpower, personnel, and training functions under a Deputy Chief of Naval Operations (OP-01). OP-01 is organized to manage in seven functional areas: total force management and analysis, total force planning, total force programming, military personnel and training, and three others unrelated to training. OP-01 responsibilities include coordination of training requirements, recruiting and retention goals, establishment of personnel plans and priorities, MPT programming and budgeting, and defending training resource requirements within the Navy staff. The process is complicated by the role of

the major warfare sponsors, all of whom have planning, programming, budgeting, and resource allocation responsibilities for their respective areas of training. Navy training may be divided into two major sub-systems: training ashore and training afloat. Training ashore generally is managed by CNET, who provides resources and curriculum control; and conducted by CNTT, CNATRA, COMTRAPAC, and COMTRALANT. It is usually conducted on an individual, institutional basis. CNTECHTRA conducts and manages all recruit training and about half of the specialized skill training. CNATRA manages the training of undergraduate pilots and Naval Flight Officers, while COMTRALANT and COMTRAPAC manage the remainder of specialized skill and functional training for the Atlantic and Pacific Fleets. The Atlantic and Pacific Fleet commands are responsible for training afloat. Ships/units trained by the Fleet Commanders are deployed under the control of numbered Fleet Commanders whose mission is largely operational as opposed to training. The Navy management system is also decentralized and there is no organization within it which manages the total training system through the execution of the five classical functions of management.

   d. Marine Corps. Unlike the other services, there is no training command within the Marine Corps. Full responsibility for training management is centered at Marine Corps Headquarters, specifically with the Commandant. The Training Division of the Deputy Chief of Staff for Operation and Training is chartered to manage training in five functional areas: Plans and Budgeting, Education, Individual Training, Unit Training, and Training Support. A conceptual difference between the training division and the staffs of the other services is that titularly it has approval control over all formal curricula for training conducted by the Marine Corps. However, the manning level of the directorate prevents it from effectively exercising this control. Responsibility for the conduct of training passes directly from the Commandant through the base or depot commander to the director of the school with no intervening headquarters. As previously discussed, much Marine Corps institutional training is conducted by the other services. Unit training is the sole responsibility of the commander at each level. The Commandant maintains direct control over the unit training process through the chain of command. The Marine Corps' management system is centralized so that the Commandant is in

a position to personally control the five classical
functions of management. Although the Marine Corps' or-
ganization is capable of managing training as a total
system, it is not currently structured and staffed to do
so.

e. Air Force. The training management function
rests with the Deputy Chief of Staff for Manpower and
Personnel (AF/MP). AF/MP provides policy guidance to
both ATC and the MAJCOMs. Although other staff agencies
exercise control over various training activities, they
must coordinate with AF/MP as the primary manager. ATC
is the major training organization within the Air Force.
Like TRADOC, ATC provides policy guidance and resources
to its basic military training center and technical
training centers who develop and conduct recruit and
technical training programs. Unlike TRADOC, the re-
cruiting command is under ATC's control. Conduct of
unit training is spread through the major operational
commands (MAC, TAC, and SAC). Unlike the other ser-
vices, unit training is not the sole responsibility of
the unit commander. MAJCOM provided CCTS, ATC provided
FTD, and base provided OJT supervisors conduct or man-
age a significant amount of unit training. Like the
Army and Navy, the Air Force has no organization which
manages the total training system through the execution
of the five classical functions of management.

3-4 UNRESOLVED TRAINING MANAGEMENT ISSUES. The train-
ing operational problems discussed in Chapter Two, the
OSD and service management organizations identified to
deal with them, and the requirements of a viable total
training system, result in the following major unre-
solved training management issues. They are consoli-
dated and listed here for emphasis, having been previ-
ously discussed.

a. There is no organization within OSD or the ser-
vices which can perform all five of the classical func-
tions of management for the training system as a whole.
There is no single spokesman who can state the service's
position on training management issues.

b. There is inadequate interface and coordination
between OSD and the services on training issues. Within
the services there is inadequate interface and coordina-
tion among the various components of the total training
system.

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c. The process for funding training is inadequate. Training funds are derived from several different appropriations and not managed as a total system within the PPBS. The services do not have a valid methodology for assessing unit training costs.

d. Definitive measures to evaluate combat effectiveness of units need to be developed and incorporated into a feedback system capable of providing decision makers at the service, JCS, and OSD levels responsive and relevant information on current unit status.

e. Noncombat related requirements are frequently mandated in schools and units at the expense of combat essential training. There is no mechanism available to validate these requirements, assess the impact on combat effective training, and to identify resource requirements.

f. Exported training adversely impacts on unit training. As a result, operational units must emphasize individual training in lieu of collective and team training. During mobilization, exported training could seriously impair the combat effectiveness of operational units.

3-5 ORGANIZATIONAL CONSIDERATIONS. The above unresolved training management issues collectively indicate that, in its present configuration, OSD is improperly organized, inadequately staffed, and incapable of properly performing its training management function. Given the size and cost of Recruit, Specialized Skill, and Unit Training, the critical role these activities play in achieving and maintaining combat effective military units, and the need to view training as a total system, the Study Group investigated alternative organizations which would be capable of effectively dealing with the unresolved management issues, and implementing the recommendations contained in Chapter Two. A training management organization within the JCS, and a Defense Training Agency were considered and rejected. Figure 3-1 depicts a possible organization which the Study Group believes contains those elements required of a viable OSD training management system. Figure 3-1 is representative only. The actual structure of the organization might result in a different number of divisions, or additions, deletions, or modifications to the functions illustrated.

3-8

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                    ┌──────────┐
                    │ DASD/TRNG │
                    └──────────┘        ┌───────────┐
                          │             │ TECHNICAL │
                          │             │ ADVISOR   │
                    ┌───────────┐       └───────────┘
                    │ ASSISTANT │
                    └───────────┘
                          │
        ┌─────────────────┼─────────────────┐
 ┌───────────────┐ ┌────────────────┐ ┌─────────────────┐
 │ POLICY REVIEW │ │ PROGRAM ANALYSIS│ │ RESOURCE ANALYSIS│
 │   DIVISION    │ │    DIVISION     │ │    DIVISION      │
 └───────────────┘ └────────────────┘ └─────────────────┘
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POLICY REVIEW DIVISION	PROGRAM ANALYSIS DIVISION	RESOURCE ANALYSIS DIVISION
• Policy	• MMTR	• Accession/Retention
• Interservice Interface	• R&D Interface	• Manpower Management
• Efficiency/ Effectiveness Measures	• Legislative Interface	• Resource Allocation
• Ancillary Training Review	• Training Research	• Requirements
	• PPBS	• Range and Airspace
	• Training Oversight	• Joint Training

FIGURE 3-1   ORGANIZATION OF THE OFFICE OF THE DEPUTY
              ASSISTANT SECRETARY OF DEFENSE FOR TRAINING

The Office of the Deputy Assistant Secretary of Defense
for Training (DASD/TRNG) should be established within
MRA&L. This could be accomplished through an expansion
and realignment of current DOD management functions
which pertain to training. In order to insure the depth
of knowledge and experience required for the position,
and to establish credibility within the services, OSD,
and Congress, the DASD/TRNG should be a three-star
general/flag officer with experience in training and
operational matters. He should be detailed to the
position on a rotating basis from the four services, and
should have equal status with the other Deputy Assistant
Secretaries within MRA&L. The precedent for a military
DASD has been established within the Office of the
DASD/MPP. His assistant should be a one-star general/
flag officer. The technical advisor should be a senior
civilian knowledgeable in both training operations and

management processes. He would provide advice and coun-
sel to the DASD/TRNG in areas such as systems manage-
ment, budgeting, and the functioning of the Department
of Defense.

Training Management Functions could be performed by the
three divisions shown in Figure 3-1. To operate effec-
tively, they must be staffed with personnel experienced
in many diverse areas such as training operations and
management, program analysis, budgeting, etc. This
could be established through a mix of military personnel
possessing recent operational training experience, and
civilian professionals with training and experience in
appropriate career disciplines. Such a mix would insure
both current knowledge of training matters, and a con-
tinuity of acquired management expertise. The divisions
should be headed by military officers in the grade of
O-6.

APPENDIX A

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MG Herbert L. Emanuel	USAF
BG Richard A. Kuci	USMC
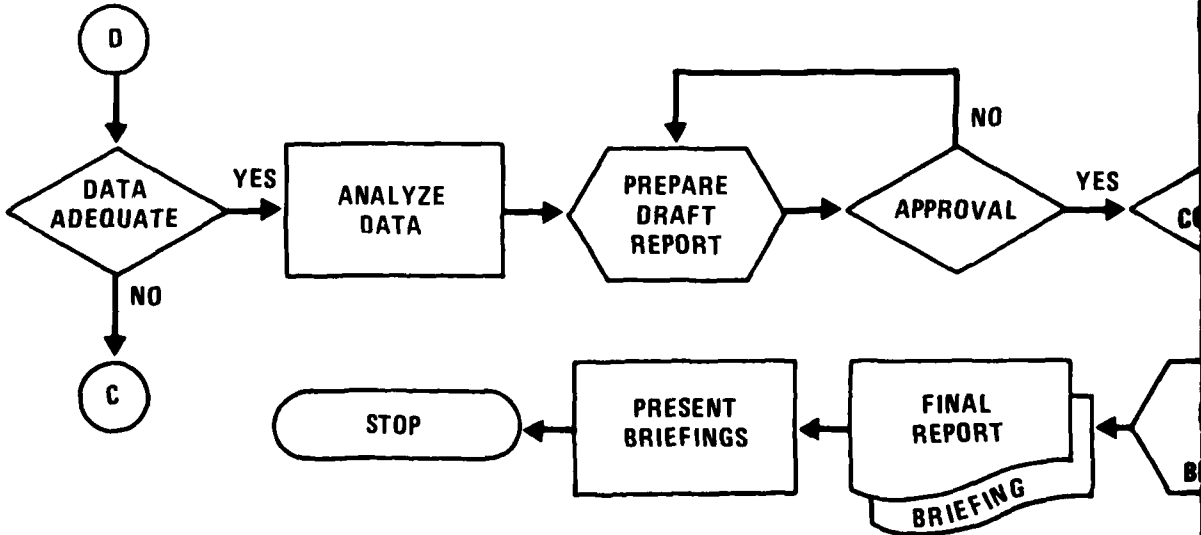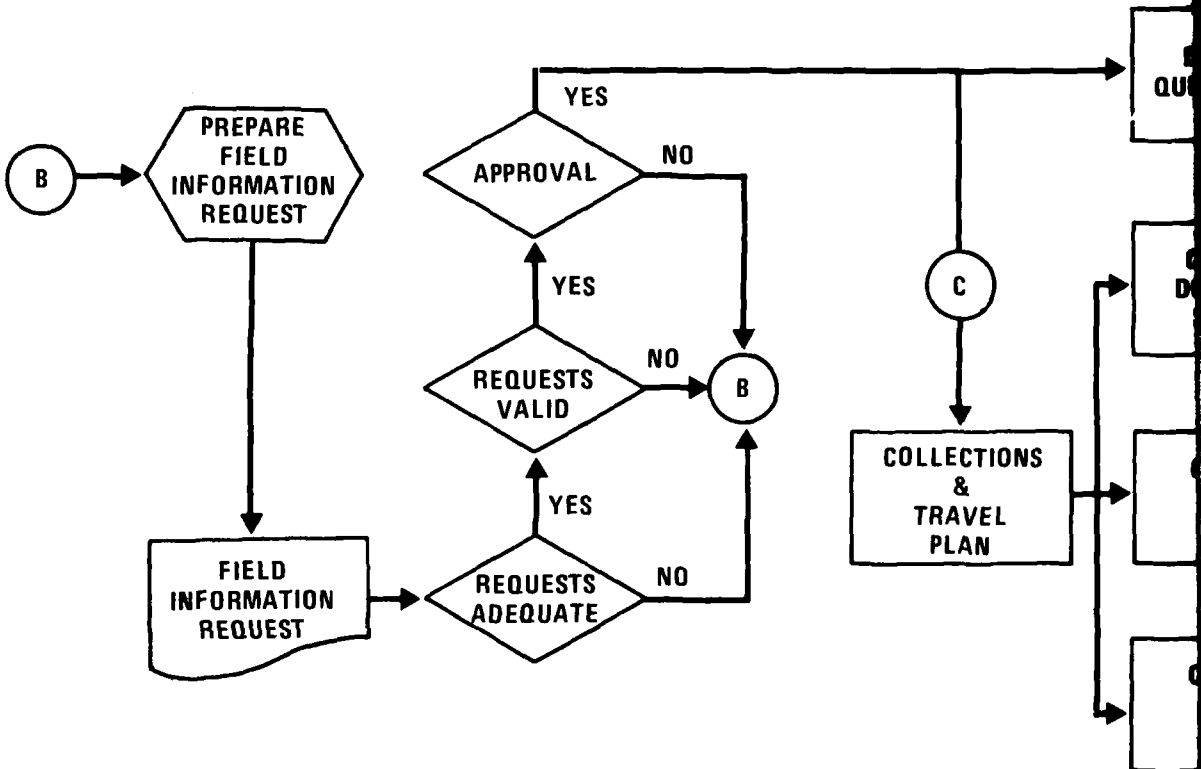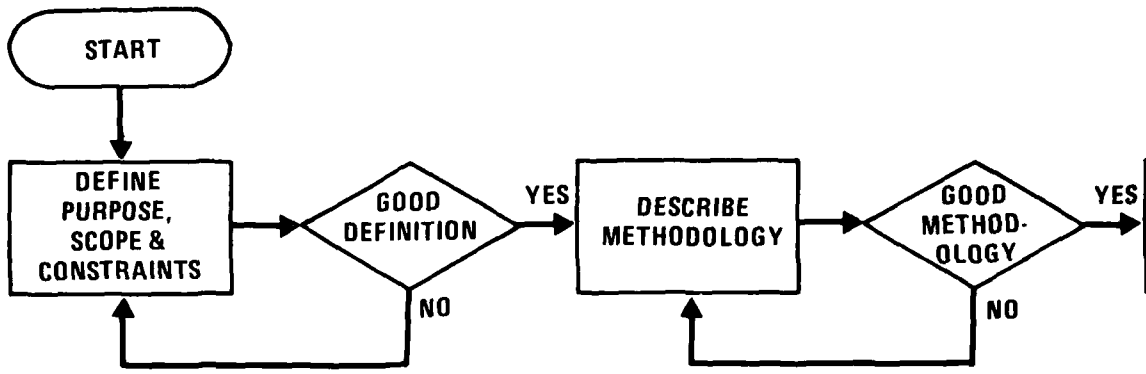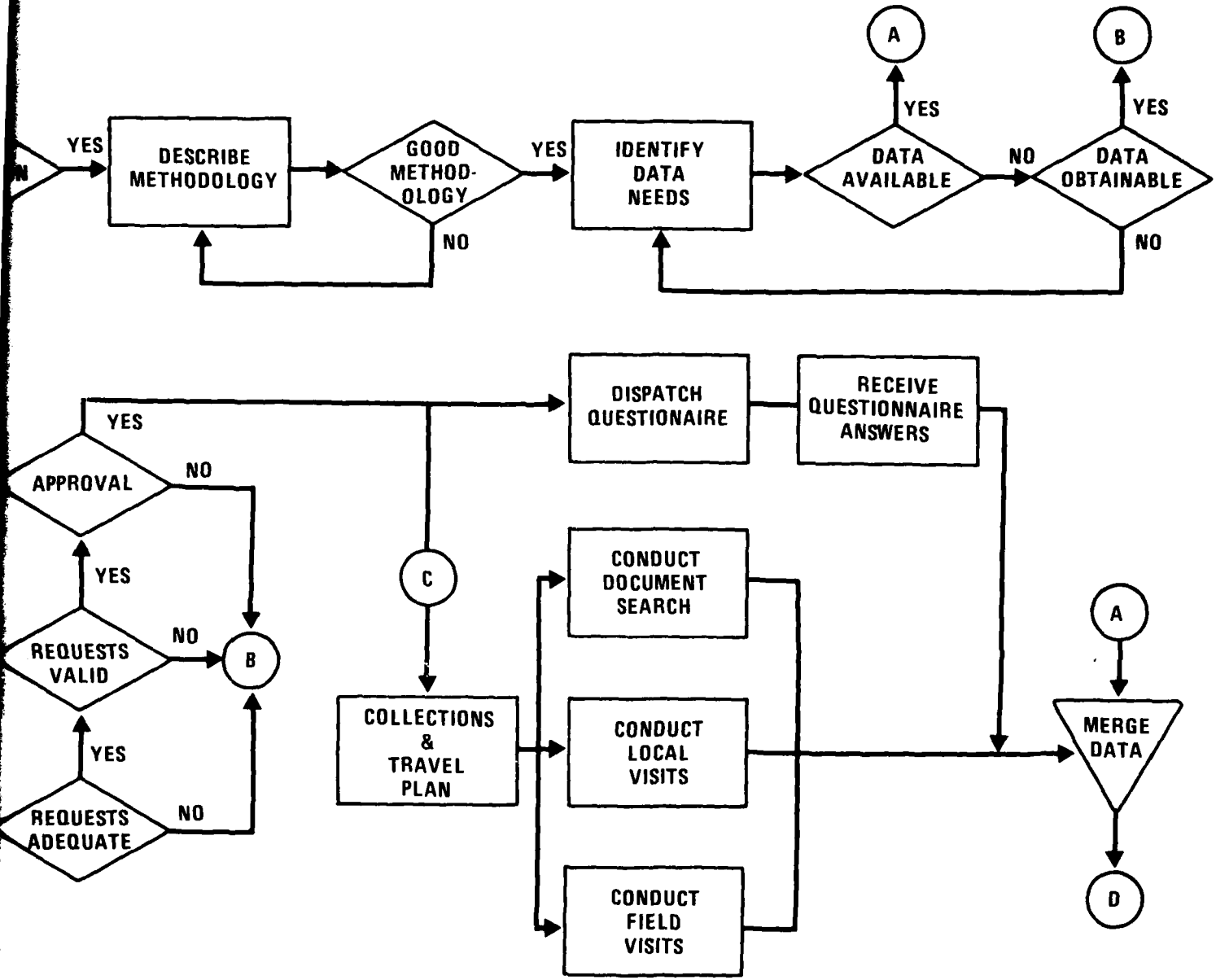
FIGURE B-1
LOGIC FLOW CHART FOR
THE CETRM METHODOLOGY

B-1
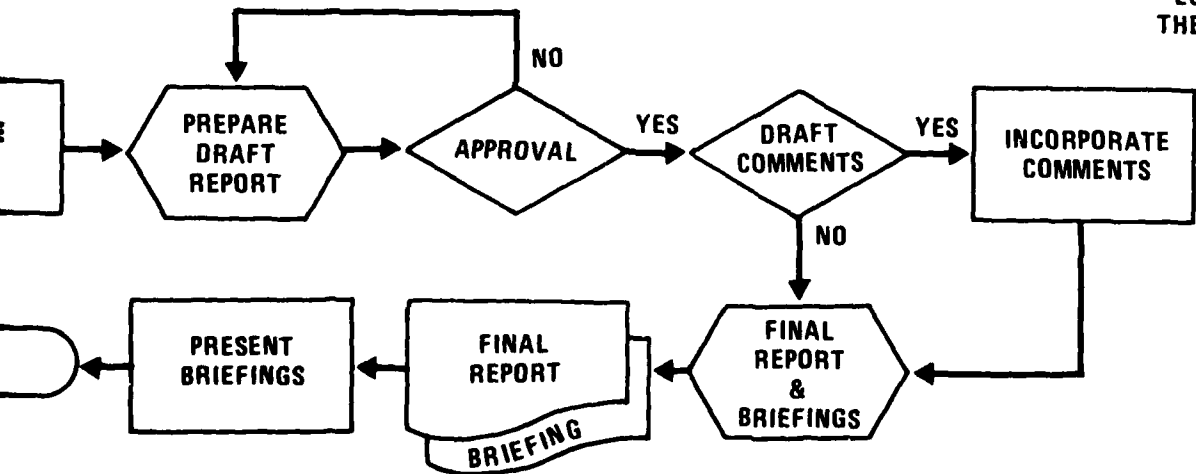
APPENDIX C

INFORMATION REQUEST RESPONSE SYNOPSIS

U.S. ARMY TRAINING OPERATIONS

I. Location of Training

A. On what basis are decisions made as to whether
a particular training program should be conducted in the
unit or in a formal school? What role do budgetary con-
siderations play?

> Europe: The most commonly mentioned reason is
> the availability of qualified instructors and
> students. Other comments include availability
> of funds and technical level of courses. ISD is
> seldom mentioned. Other Army units: Responses
> are similar to Europe. Schools: ISD is over-
> whelmingly listed as the basis upon which deci-
> sions are made as to the location of training.
> Budgetary considerations were considered to play
> a major role in most responses. Germane com-
> ment: "Placing a dollar cost on institutional
> training is a straightforward process, but it is
> extremely difficult to generate accurate unit
> training costs."

B. What changes and/or recommendations would you
make regarding training location (unit vs. school)?

> Europe: The primary concern is the need to de-
> crease export of training to operational units
> in Europe. Nuclear artillery units, Berlin
> Brigade, etc., need well-trained troops, not
> apprentices. Mobile training teams are well-
> received. Other Army units: Responses are
> similar to Europe. Schools: The belief is that
> no changes are needed, or that more exported
> training is needed. To do this, schools suggest
> increased use of ISD, and better formal training
> of first line supervisors. Germane school com-
> ment: "School graduates are apprentices, not
> journeyman (sic). Emphasis must be placed on

providing reenforcement and additional training
at the unit level."

C.   What is the current policy/position on Joint
Service Training of common tasks at a single site?

> Europe: Most respondees had no opinion. Those
> who did respond strongly favored Joint Service
> Training. Other Army responses: Respondees
> were even more in favor of Joint Service Train-
> ing than was Europe. Schools: Respondees were
> more in favor of Joint Service Training than
> the rest of the Army. One response cautioned
> that care must be taken when doctrine differs
> between two services.

D.   What is the level (division, squadron, wing,
etc.) of your organization, and what are the functions
your organization has in arriving at joint service
training policy and positions? What function does your
higher headquarters have?

> Europe: Divisions have liaison officers, etc.,
> but do not make policy. Corps headquarters
> have a Directorate of Air/Land Force Applica-
> tion (DALFA), which has cognizance over these
> matters. Other Army units: FORSCOM has the
> policy function. Units coordinate, staff, etc.
> Below division, there is no function. Schools:
> They are normally members of ITRO in their area
> of expertise. Thus they have a large impact.
> TRADOC also has a large impact, with a Major
> General on the ITRO executive committee.

E.   What changes are planned in the location of
training (unit vs. school) in the event of full mobil-
ization?

> Europe: The sense of the responses is that all
> European schools would close, and the training
> would be done in units. However, Europe is
> not prepared to train replacement personnel.
> CONUS schools must still function. Other Army
> units: The majority say that no change will
> occur until deployment. Ft. Bragg plans to
> become a training installation after the Corps
> deploys (most units do not have current mobil-

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ization deployment plans). Schools: They anticipate no changes in location. They say some courses will be eliminated, and schools will operate on double shifts. Some respondees say that field commanders would have to assume part of the training load. Germane comment: "Decentralized training concepts could not be supported with the expected large influx of personnel. Training will have to be more centralized ..."

II. Preparation of Trainers and Managers of Trainers

A. Where in the training establishment are individuals formally trained to: (1) conduct training? (2) supervise the conduct of training?

> Europe: Trainers are trained in CONUS formal schools, by OJT, and in European schools. Not all trainers get this training. It is conducted for the use of schools, not units. Many answers say that supervisors receive no training. The sense of the response is that training given trainers and training supervisors is inadequate. Other Army units: Responses are similar except that they do not mention inadequacy of training. Schools: They have professional courses for training developers, trainers and supervisors. All schools believe that the training provided their personnel is adequate or better.

B. Is this training the same for trainers assigned to training centers, schools, and units?

> Europe: The sense of the response is that training is not the same. It may be similar, but not nearly as intense for field personnel as for school personnel. In addition to CONUS schools, 7ATC has training and training management schools. Not all receive this training. Germane comment: "Trainers at schools receive excellent training, but there is no program for unit trainers, and this is where most of the training is conducted." Other Army units: Responses are similar to Europe. Germane comment: "Training should not necessarily be the

C-3

same because the environment is different in schools and units. However, training for units should be just as intense." Schools: The majority opinion is that training is different in schools and units, and should not be the same. However, a significant minority said training was the same.

C. What are the current trends?

Europe: The sense of the response is that trends are towards increased use of modern training methods (ISD, simulations, etc.) and more emphasis on training of trainers. However, respondees indicate that the "train the trainer" concept isn't working. Other Army units: No definite trend is indicated. The most mentioned response is a trend towards more performance oriented training. These responses are surprising, based on FORSCOM's emphasis on the "train the trainer" concept. Schools: The trends are towards more ISD, criterion referenced performance-oriented training, self-paced open entry/open exit training, and training of trainers to facilitate the export of training.

D. What procedures are used to evaluate the performance of trainers in training centers, schools, and units (your organization)?

Europe: Extensive use is made of the results of SQT/ARTEP. Subjective procedures such as inspection reports, critique sheets, and commanders evaluations are still largely used. The theory is that, if students/units can pass their SQT/ARTEP, then training is adequate. Other Army units: More reliance is placed on inspections and commanders evaluation (subjective). Schools: Primary reliance is on subjective evaluations by supervisors, directorate chiefs, etc., and by outside inspections from evaluation organizations. Critique sheets and performance of students on various tests are also used.

E. What criteria are used to determine whether an individual has been certified as a qualified trainer in your organization?

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Europe: There is no uniform objective criteria. Commonly mentioned criteria includes subjective evaluations, OJT, and personal proficiency in the SQT/ARTEP. A few responses say that formal schools are used, but that not all trainers can attend. Some units say such criteria are not needed. Other Army units: They lean more heavily toward subjective evaluation by commanders/supervisors and less towards formal schools. No CONUS unit mentioned OJT. Schools: All schools have formal courses of instruction for their trainers. These courses are augmented by OJT periods, evaluations by supervisors, student performance, etc. One school mentioned the award of an "instructor" or "distinguished instructor" badge.

F. What system is used to ensure that the trainer is competent within the occupational field and skill for which he is responsible?

Europe: Units primarily used the commanders subjective evaluation of performance on SQT/ARTEP. Other Army units: The process is informal, and relies mainly on the same two factors; subjective evaluation, and to a lesser extent SQT/ARTEP. Schools: No formal system exists. Schools also rely heavily on subjective evaluation. They use SQT results, formal schools, and OJT.

G. How much training do first line supervisors receive in instructional techniques and procedures?

Europe: Approximately fifty-five percent of the responses indicate that the first line supervisor receives training in formal schools. This training is a peripheral part of the curriculum, and not all first level supervisors attend these schools. The remaining supervisors received OJT. The sense of Europe's response is that training levels for supervisors is vastly variable, with most getting little or no training. Other Army units: Responses are similar to Europe. Schools: All first line supervisors receive training. All have been instructors, and have had instructor

C-5

training. In general, schools feel this training is satisfactory.

H. What roles do higher headquarters play regarding the preparation of trainers and managers of trainers?

Europe: Higher headquarters sets the training goals and standards; and provides resources, funds, facilities, school quotas, etc. Germane comment: "Higher headquarters gives guidance and direction, but no assistance." Other Army units: Responses are similar to Europe. Germane comment: "Army decentralizes training to battalion level, but keeps control of school quotas and resources at division or higher level." Schools: The higher headquarters is TRADOC. TRADOC provides training requirements and standards, and allocates resources. It controls, guides, and evaluates through the ISD process. Two service schools stated that higher headquarters played no role in the preparation of their training.

I. What changes are planned in trainer and training manager preparation in the event of full mobilization?

Europe: Approximately one-half of the respondees say none or N/A. Others say that all formal schools will be cancelled and training of trainers would be done in the unit. Other Army units: All units say there will be virtually no change. Some training programs will be eliminated and others consolidated/centralized, requiring less trainers. Schools: No changes are planned. Some courses will be deleted. More students will be trained in other courses. Net result will be an increase in trainers.

J. What changes and recommendations would you make regarding the preparation of trainers and training managers?

Europe: The definite sense of the respondees was a plea for more formal training for junior trainers and supervisors. Other Army units: Responses are similar to Europe. Germane comments: "Need less theory, more practical

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work", "Need more training for senior supervisors/trainers", "Training should be a hard skill with its own MOS". Schools: The majority of schools have no recommendations for change. Several schools want more formal training and qualifications/standards for trainers. One school wants more training for senior officers on new policies such as BTMS, etc.

K. What experience, if any, has your organization had with contract training (industry, universities, private contractors)? Give details, results and reactions.

Europe: Units have no experience with combat related contract training. Training mentioned included non-MOS training (GED, BSEP, language training, etc.) with favorable comments; and NET from DARCOM with favorable comments. Other Army units: FORSCOM HQ has contracted for an instructor training program, and is very pleased with the results. HSC contracts several courses and is happy with results. However, they say that contractor course development (ISD) is weak. Local colleges work out of education centers on contract. Comments are universally favorable. FORSCOM units have little experience with the contracting of combat related courses. Schools: Contracts are in being for a wide variety of training services. Generally, the contract is for the development of courses, not for teaching them. Reactions range from very good to very poor. Problems are that contractors do not properly develop (ISD) their courses, have different terminology and procedures than the services, and do not have adequate military training experience and philosophy.

L. What R&D interface has there been on the topic of trainer preparation?

Europe and other Army units both say they have no R&D interface except for conducting surveys for ARI. Schools had R&D interface (with civilians, not military) in the development of ISD. Several civilian contracts have been let

to improve training content and the performance of trainers. DARCOM interfaces with TRADOC on new systems, simulators, etc. HumRRO and ARI work continually with TRADOC on a wide variety of projects.

M.   What effect does personnel turbulence have on trainers and supervisors of trainers? Describe the extent of personnel turbulence in your organization.

Europe: Turbulence is not severe among officers. The shortest command tour is 18-24 months. Turbulence is offset by "fresh faces and ideas". Turbulence will be increased by two-year overseas tour for young unmarried soldiers, particularly in low density MOS. Other Army units: Fifty percent or more turnover annually is cited. The problem is made worse by units being under strength to start with (twenty percent shortage is common), and a lag in the arrival of replacements. Schools: Turbulence is significant because of the time required to train a new trainer. Germane comment: "One-third of the faculty needs training every year." However, the high number of civilian instructors eases this burden.

III. Content of Training

A.   How does your organization determine training content?

Europe: Mission requirements are received from higher headquarters (GDP, etc.). Job task requirements to perform missions are identified. Units train to those tasks using SQT and ARTEP as performance standards. Determining requirements and conduct of training is decentralized to battalion commander level. Other Army units: Responses are similar. Training requirements are derived from SQT/ARTEP, assigned mission, and higher headquarters directives, guidance, etc. At battalion level, the commander determines the content of training to meet those requirements. Schools: TRADOC and the schools determine jobs/tasks which must be taught. All

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school responses indicate that once the task is determined, training content to support that task is designed using the ISD process.

B. How much of the training curriculum or schedule is within your control? How much is delegated to subordinate commands?

Europe: Headquarters provide guidance, mission and resources. Battalion commanders determine needs to perform the mission, and train to those needs. Generally, fifty to ninety-five percent of training is controlled by the battalion commander. The training normally not controlled by him is mandatory training subjects not under Europe's control. Other Army units: Approximately one-half of the divisions and separate brigades say that they control virtually all training and delegate execution to their battalion commanders. The rest say that they control it in theory, but that in practice they delegate all control to the battalion commander. The sense of the responses is that, in units, the battalion commander controls training.

C. Does your organization utilize:

(1) A Commander's policy document that outlines the priorities of training?

Europe and other Army units all claim that they use a commander's policy document. Approximately half of the schools say yes. The other half say no; that TRADOC provides them with their training priorities.

Does your organization utilize:

(2) An annual training plan?

Europe and other units say yes. One-third of the schools say no. (This is an erroneous answer since all the schools use ARPRINT which is in effect a training plan).

Does your organization utilize:

(3) A master training schedule?

All units and schools generally say yes.

Does your organization utilize:

(4) A training syllabus?

Europe: About one-half of European answers say yes. Other Army units and schools say yes.

Does your organization utilize:

(5) A uniform method to evaluate training?

In general, all Army responses indicate yes. Units list SQT and ARTEP as major evaluation tools. While all say they have a uniform method within their organization, there does not appear to be uniformity between organizations.

D. Assuming your organization does the above or portions of the above, how well do your units follow the preplanned planning guidance? If not, explain why they do not or cannot follow the guidance.

Europe: The majority feel that they follow their guidance/plans well. One unit mentioned fifty percent compliance, and another said compliance was poor. Common reasons for non-compliance were inadequate resources, operational commitments and weather (unit training). Other Army units: They follow guidance "very closely" or "fairly well". Major reasons for not following guidance and plans were post details and inadequate resources. Comment: Both of these detractors are generally the responsibility of the organization providing the guidance, and are generally at odds with that guidance. Schools: Planning guidance is followed explicitly. The only deviation occurs as a result of inclement weather, equipment malfunction or "acts of God".

E. What procedures and steps are followed:

(1) to introduce new training content?

(2) to delete training content?

Europe: Training content is introduced or
deleted primarily through command directive/
guidance/administrative instruction, etc. It
appears as if units do not independently
devise or delete training. Other Army units
provide similar answers although CONUS units
claim to independently introduce some train-
ing. Schools primarily say that the ISD prc ·
cess is the vehicle for introducing and
deleting training content. The initiative
may be taken by TRADOC, which directs imple-
mentation, or it may be taken by the indi-
vidual school and approved by TRADOC.

F. What changes and recommendations would you
make regarding the content of training?

Europe and other Army units want more formal
schools/less exporting, more live fire/"real-
istic"/performance oriented training, and
continued decentralization of training to the
battalion level. Schools, in general, had few
recommendations. Those who did were in favor
of increased/more effective use of ISD, elimi-
nation of noncombat related training, and
increased training of trainers. One interest-
ing comment said that SQT and ARTEP should be
correlated so that like tasks were the same,
thus allowing training for one to be useful
for the other.

IV. Training Methods

A. What procedures, if any, are used to determine
absolute and relative costs of the training methods
currently in use?

Europe: The accounting system does not break
out absolute training costs, just costs.
Example: An Army battalion is costed at
$5,056 per day in the local training area,
regardless of what it is doing. Housekeeping
costs are not broken out. Relative costs are

subjectively determined or not determined at
all. Other Army units (brigade and smaller)
say they don't determine either absolute or
relative costs except for tracking POL, ammo,
school quotas, and battalion field training
days. Divisions and one Corps Headquarters
say that they don't determine these costs or
that the methodology is just now evolving.
FORSCOM has two models in use: the cost
effectiveness operational model (COEA); and
the weapons system training effectiveness
analysis model (WSTEA). No mention was made
of the Ft. Hood accounting system. Knowledge
of analytic tools in this area are not well
known.

B. How are new training methods developed, and
what steps are followed to implement them?

The sense of all responses is that units do
not develop new training methods. They imple-
ment them as instructed by the developer.
Europe refines and evolves training, but does
not develop it.

C. How are trainers trained to use newly devel-
oped methods?

Unfortunately, new training methods/devices
are at times introduced without proper orien-
tation/information to the trainer on how to
most effectively utilize the method/device.

D. What changes and recommendations would you
offer concerning training methods?

Responses cited more emphasis on newer train-
ing methods, simulators, etc., they need more
live fire/field training, and better training
management.

E. Are there any changes contemplated in training
methods in the event of full mobilization?

Europe: One-half of the answers indicated
that there would be no change. The sense of
the other answers is that European schools

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will close and that training will be done by
OJT in units. Other Army units: Fifty per-
cent of respondees also indicated that there
would be no change. Sense of the other
answers is that training will be centralized
vs. decentralized, there will be more OJT/
field training, and that the tempo of training
will increase. Schools: They also have a
large number of "none" answers. The sense of
the other answers is that self-paced training
will give way to lock step instruction, that
instruction will be intensified and condensed,
with less instructors having less time to
teach only the combat essential tasks to more
students. More use of OSUT is envisioned.

V. Training Effectiveness

A. Describe the methods used to measure the ef-
fectiveness of training. Cite specific examples. In-
clude reports and data (how it is collected, how often
etc.) measuring effectiveness. Describe how these mea-
sures relate to effectiveness.

Europe: SQT/ARTEP results backed up by sub-
jective evaluations, inspections, etc., are
used. Other Army units give similar examples.
Schools: Internal and External methods are
used, to include: subjective evaluation by
their own and by TRADOC's Department of Evalu-
ation, statistical analysis of student perfor-
mance tests, failure/attrition rates etc.,
critiques/questionnaires given to students at
graduation and later in their careers, and
evaluations from commanders and supervisors
in the field.

B. Where is this information sent?

Europe: Information is maintained at the
headquarters directing the evaluation for
its use. ARTEP/IG/nuclear security evalu-
ation results, etc., are sent to units for
their training use. Nuclear security/ORTP,
etc., are sent to SACEUR. Unit status reports
are sent to HQ DA. SQT results are sent to
individuals and to their commanders. Other

Army units: Replies vary from "back to unit concerned" to "up to DA". Units mention sending information to TRADOC which is outside their chain of command, and to commanders at several levels within FORSCOM. Schools: Information is dispatched internally from appropriate directorate levels down to the unit/organization affected. Designated information is sent to TRADOC and other outside agencies.

C. What feedback is received after it has been forwarded?

Europe: The sense is that units receive SQT/ARTEP feedback well. In general, however, they receive little feedback from other sources. Other Army units approach feedback in two ways: (1) receipt of SQT/ARTEP results, which permit the commander to establish training programs, and (2) requirements to answer and explain steps taken to remove discrepancies. Many units stated that very little or no feedback is received. Schools: Feedback is a requirement in the ISD process. Therefore, it flows up and down better than in units. One school mentions a closed loop for information, deficiencies, problems and corrections. Feedback to the school/TRADOC system is received from both internal and external sources.

D. What is done with it in your organization?

Europe: Feedback is stated as being used to restructure training in needed areas, reallocate resources, etc. It is primarily used at battalion and division level. Other Army units give similar answers. Two units said "feedback is filed for future reference". Schools: Feedback is put into the ISD loop and processed to make changes as needed. Several replies say feedback is used as reference material to check on classes to determine if corrections have been made. One school "filed it".

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E.   What steps are taken to validate the accuracy of this effectiveness data?

>Europe: Standards are validated Army-wide by the ARTEP. Effectiveness of training is measured with respect to achieving that standard. Other Army units: Most responses indicated that only subjective validations were used. Germane comment: "The commander's knowledge of his state of training is most often the best measurement of the accuracy of the evaluation." Several answers said N/A since SQT/ARTEP is already validated on an Army-wide basis. Two respondees indicated an objective evaluation, citing mathematical/ statistical analyses, and evaluation of hard data. Schools: Validation is accomplished in several ways. The "testers" are separate from the "trainers" giving an independent validation. Both subjective evaluation of different types of data and mathematical statistical analysis of data are performed in a variety of ways by the schools.

F.   To your knowledge, has there been any R&D interface on this topic? If so, what type?

>Europe and other units indicate that they know of little or no R&D interface currently going on. There was an interface in the development of SQT and ARTEP in the past. VII Corps has a force modernization division which works on the introduction of new equipment in Europe. Training and training effectiveness is a part of their charter. Other Army units: Responses are similar to those of Europe. Schools: Validation efforts are continually going on through the ISD process. In addition, numerous studies of effectiveness are being conducted by HumRRO, ARI, etc.

VI. Situational Factors in Training

A.   What interferes with the planning and conduct of training? Describe how it interferes.

>Europe: Most commonly listed are community/ life support requirements, operational

requirements and lack of facilities and
resources. One unit "consumed 14 weeks in a
five-month period being inspected or pre-
paring for inspection". Other Army units:
Responses are similar except that they list
personnel turbulence as being a factor, while
Europe does not. Schools: Responses differ
from Europe and other Army units; listing life
support requirements, lack of resources and
facilities (training areas, funds, ammo, POL,
etc.), and turbulence (unbalanced student
loads, lack of trainers). Three responses
listed poor/inadequate management and assis-
tance from TRADOC as interfering with the
planning and conduct of training.

    B. What percentage of the average unit duty week
is spent in mission essential training?

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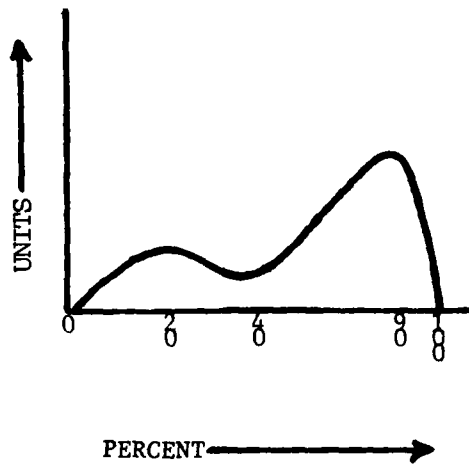
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The node at approximately twenty percent
represents those units not in a primary
training cycle: post detail, standdown, etc.
The node at approximately eighty-five percent
represents those units whose primary function
is training.

C. What percentage of the average unit duty week is spent doing non-mission essential actions/duties?

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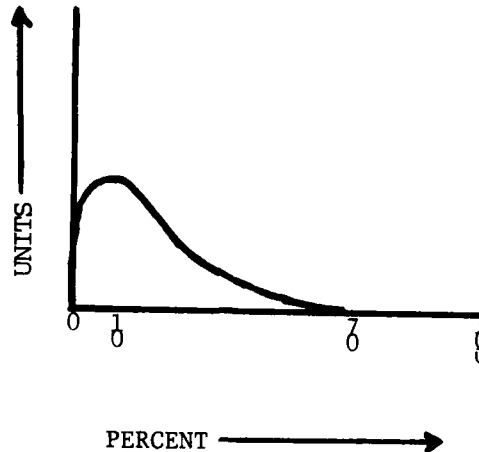
D. What changes and recommendations would you offer to alleviate the problem identified above?

Europe suggests centralized control over mandatory training subjects, elimination of non-essential training, better management of the allocation of funds and resources, and better training of trainers. Other Army units say essentially the same, adding a request for better management of non-operational commitments; and a recommendation to reconsider civilian cutbacks, which cause troops to be diverted from training to housekeeping functions. Schools had many answers of "none". They wanted increased quality of instructors, more civilians/less turbulence, better management of course requirements/schedules, etc., and reduction of non-essential requirements.

E. Identify those policies and/or directives which (1) enhance training operations and output, and (2) hinder training operations and output.

Europe lists decentralization of training, and the advent of SQT and ARTEP as training enhancers. Training hinderers are unnecessary

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mandatory training and lack of resources/fa-
cilities. Europe sees required non-essential
training as Army directed, not DOD or other
agency directed. Other Army units agree that
BTMS, SQT, ARTEP and their supporting litera-
ture standards, etc., are the main enhancers.
Training hinderers are poor facilities and re-
sources, exported training, and post details/
cyclic support, etc. Schools had many respon-
ses of none/NA, etc. Enhancers were BTMS/SQT/
ARTEP, etc. Training hinderers were post de-
tails and requirements, and lack of adequate
facilities/resources. Soldiers manuals,
FORSCOM Reg 356-1 and TC 21-5-7 are frequently
listed as examples of good policies/directives.

F.   Was programmed mission essential training con-
strained or curtailed, or your command's ability to ac-
complish its mission adversely affected by budget consi-
derations? If so, please give examples.

Europe: Responses were divided between yes
and no. Examples were having funds curtailed
after allocation causing cancellation of tank
gunnery, field exercises, and visits to train-
ing areas; and lack of ammo/POL which also
caused cancellations. Other Army units say
they are curtailed in varying degrees. One
separate brigade reported 259 unfinanced bat-
talion training days last year. Two divisions
reported 2.2 and 2.1 million dollar budget
curtailments received two months into the fis-
cal year. In effect, money they had already
spent was taken away and had to be made up out
of training funds. Schools: Most answers
were "no". However, other areas are hurt by
budget problems. Schools say "training
first", and take all cuts out of other areas
which indirectly affect training. Examples:
deferment of new facilities, less training
development, etc. Schools say they "make do"
and get it done, however, less efficiently
than if they had stable funding. One school
said that its funding was adequate but that
inflation had hurt its training, particularly
in gas/diesel prices.

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G.   When in FY 1978 and FY 1979 did your command
receive its approved training resources (dollars, train-
ing ammunition, etc.)?   When should you receive it in
order to achieve effective decentralization of training?

> Europe: In almost all cases, yearly training
> money is received after the FY starts; in the
> October/November/December time frame.   In two
> cases, money was received as late as February.
> They operated for five months with no approved
> budget.   All feel they should receive their
> money well ahead of the FY, with authority to
> start spending on 1 October.   This allows for
> planning.   Other Army units had similar re-
> sponses.   Schools had similar responses.   The
> sense of all answers is that fund authority
> is received forty-five days to five months af-
> ter the start of the FY.   A firm commitment,
> not authority to expend, is needed from three
> to six months prior to the FY to allow reason-
> able management.

H.   Did your command receive year-end monies in
FY 1977 and FY 1978?   If so, what percentage was used
for training or training related expenditures?

> Europe: Most units received year-end monies.
> Few used it for training.   Once received, the
> time factor is inadequate to allow sufficient
> reaction and reallocation to training efforts.
> Germane comment: "Days in the MTA, once
> lost, cannot be made up."   Other Army units:
> Year-end monies are also received.   However,
> they say they are able to program them into
> training related activities.   Schools: The
> majority did not receive year-end monies.
> Those who did, generally, had no difficulty
> using them.

I.   Could you more effectively use year-end monies
if allocated at the beginning of the fiscal year?   Or
halfway into the year?

> Europe: In all cases, units want money
> sooner; they have difficulty using it in
> August/September.   If unable to get it sooner,
> they would like authority to use it in the
> next FY.   Other Army units: All want monies

earlier in the year to allow for planning, or want it allocated at the start of the <u>next</u> fiscal year. Schools: Answers are similar to Europe and other Army units.

J. How is the information derived from your training effectiveness and efficiency indicators translated into training dollar requirements? How do you formulate your budget requirements?

> Europe: ARTEP evaluation and commanders subjective evaluation determine training requirements. Historical financial data and training requirements determine budget. V Corps, VII Corps, 3ID, and 7th Engr Bde all have training cost models. Other Army units and Corps Headquarters use a formal system to determine dollar requirements. Lower level units translate "battalion field training days" into dollars based on historical data and dollar ceilings. Schools: Budgets are formulated based on programmed training requirements and "load cost" factors. One training center listed projected costs of $131/day for basic training and $230/day for OSUT. No one in the Army has a system to efficiently translate effectiveness and efficiency indicators into dollar requirements. One response said that management processes are not sophisticated enough to do this.

K. What method is used in deciding when combat effectiveness must override pure dollar efficiency? For example, what rationale is used to determine the need for live missiles vs. electronic simulators which will insure fully trained gunners?

> Europe: Evaluation of SQT/ARTEP and live fire results, commanders evaluation and other largely subjective measures are used. Other Army units: Approximately one-third of responses were "unknown". Others stated that the relationship is not measured directly, but that combat effectiveness must govern. They then all list examples showing how combat effectiveness takes second place to dollar efficiency in all cases. Schools: The majority stated N/A. Those responding generally stated

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that combat effectiveness rules in schools, but that the method for deciding is generally subjective evaluation by the faculty.

L.   What would you suggest to improve any aspect of the training dollar acquisition or allocation?

Europe: (1) Designate funds si.: months prior to start of year. (2) Formulate better costing models. (3) Several other minor responses. Other Units: (1) Increase training in financial subjects in service schools. (2) POL allocation process drastically needs revision. (3) Formulate better training cost models. (4) A consistent allocation approach. (5) Eliminate BFTD. Schools: (1) Better training load projection. (2) Better training development/determination of requirements. (3) More timely receipt of budget information/ authority. (4) Better costing relationships.

M.   What are the problems with training and training management not addressed in the above areas and what can be done to correct them?

Europe: (1) Inability of the Army to articulate needs to DOD and Congress. (2) Different cost models in MACOM. (3) Geography - fund differently for units based on distance from the major training area. (4) Poor trainers; we need to train the trainer. Other Units: (1) Training management should be a full-time job, not an additional duty. (2) Allocation of more unfenced funds/better ability to reprogram. (3) Troop shortage in CONUS to fill Europe. (4) Equipment does not perform to mission standards. Schools: (1) Poor quality of accessions. (2) Investigate the concept of basic training for units instead of for individuals.

U.S. NAVY TRAINING OPERATIONS

Navy comments may not be completely representative because information requests were not sent to individual ships or squadrons.

I.   Location of Training

A.   On what basis are decisions made as to wheth-
er a particular training program should be conducted
in the unit or in a formal school? What role do bud-
getary considerations play?

> Answers to this question varied widely and in
> many cases deferred to higher authority. De-
> cisions on formal school vs. OJT depended
> upon in-house instructor availability, in-
> house space aboard ship, course length (time
> away from unit), location of training, avail-
> ability of TAD funds, current skill level vs.
> required skill level, quota availability, and
> tempo of operations. However, certain formal
> courses are mandatory, and must be accom-
> plished in a formal school. Type Commanders
> have control over much of the training accom-
> plished because they control the funds. Re-
> sponses indicate that the allocation of TAD
> funds seems to be restricted but adequate.
> Following is a representative response from a
> Destroyer Group Commander: "It is desirable
> to conduct training onboard the ship when the
> same or better quality training can be
> achieved." It was noted that certain skill
> training and specialized simulator training
> could not be conducted aboard ship. Decisions
> on submarine training (unit vs. school) are
> made at CNO staff (OP-29) level. Germaine
> comment from CNTT: "Studies have clearly
> demonstrated that formally-trained personnel
> advance in rating much quicker and in propor-
> tionally greater numbers than OJT, after
> equating aptitude differences."

B.   What changes and/or recommendations would you
make regarding training location (unit vs. school)?

> Approximately one-half of the respondents
> indicated they had no recommendations or that
> the question was better directed to higher
> authority. Those who did respond, recommended
> a basic economic model to assist OPNAV train-
> ing managers in alignment of requirements
> with assets, resources, cost and time; more
> tactical team/crew training; increased TAD

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funding; increased use of mobile training teams; relocation of shipboard combat mission schools to coastal areas; encouragement of more intra/inter-ship in-port training (with trainers based at each home port); level load school houses at single shift rates; and application of the ISD process as early as possible, not after all budget decisions have been made.

C. What is the current policy/position on joint service training of common tasks at a single site?

Sixty percent of the respondents deferred to higher authority. Seventeen percent recommended the use of joint training whenever feasible and available. CNO and several high level commands indicated that the Navy policy is to "promote joint service training when it is practical and cost effective to do so".

D. What is the level (division, squadron, wing, etc.) of your organization and what are the functions your organization has in arriving at joint service training policy and positions? What function does your higher headquarters have?

Many units indicated that they worked in the joint service training area only when directed to do so. No policy decisions are made at a low level. A third echelon commander (CNTECHTRA), participates on the Joint Manpower Committee. All other policy decisions are made at a higher level, with almost all deferred to CNO. COMSUBLANT indicates that no joint training is accomplished in the submarine community. The following general information is pertinent to the functions of higher headquarters: (1) Group Commanders are responsible for the training of individual fleet units; (2) Type Commanders are responsible for force training; (3) Fleet Commanders are responsible for readiness.

E. What changes are planned in the location of training (unit vs. school) in the event of full mobilization?

Sixty-five percent of the respondents indicated there would be no change in training, or that they did not make decisions on mobilization at their level. Other respondents believe expansion would result in use of existing fixed plants, an increase in the number of instructors, and extension of the work day/week. One respondent mentioned the possibility of reopening bases now in a caretaker status. Responses indicate that much more time would be spent at sea with a corresponding increase in OJT.

II. Preparation of Trainers and Managers of Trainers

A. Where in the training establishment are individuals formally trained to: (1) conduct training? (2) supervise the conduct of training?

Responses indicate that individuals are formally trained to become instructors at seven different locations within the Navy Technical Training Command: CNTT, Memphis, TN; SSC Great Lakes, IL; SSC San Diego, CA; SUBSCOL, New London, CT; FTC, Norfolk, VA; NTTC, Orlando, FL; and TRITRAFAC, Bangor, WA. Learning center supervisors (self-paced) receive formal training at NTC, Memphis, TN; SSC, Great Lakes, IL; and San Diego, CA. Other less formal training programs include local Instructor Under Training (IUT) programs, COMTRAPAC instructor schools, and OJT. Enlisted supervisors attend IUT schools and in a very few cases (160 per year), attend the Navy Schools Management Course at NTTC, Memphis, TN. This course has been deleted at other schools because of billet cuts. In most cases operating units did not send personnel to these formal schools; but relied on previous qualifications, experience, and OJT. Training for supervisors of trainers is limited.

B. Is this training the same for trainers assigned to training centers, schools, and units?

Approximately one-half of the respondees indicated yes. Indications from other questions

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are that the same training is <u>available</u> to
centers, schools, and units. However, it is
utilized at a much lower rate by units than by
centers and schools. Germaine comment: "In-
structor School is for people detailed to
specific instructor billets. Unit training
is largely done in Leadership Management
Training (LMT) school and by Personnel Quali-
fication Standards (PQS)."

C.   What are the current trends?

Answers varied widely. Major <u>operational</u>
commands (HQ Atlantic Fleet, and Naval Forces
Europe) responded that they were not aware of
training trends; reemphasizing the fact that
they consider themselves to be users, not
trainers of personnel. Indications were that
trained trainers were not abundant in areas
where unit training was conducted (COMTRALANT
US ATLANTIC FLEET, Norfolk, VA has recommended
that training be conducted for managers).
Educational specialists/technicians have been
placed with three of the four major functional
commanders and the fourth has billets pro-
grammed. Another trend indicated a re-
duction in numbers and in availability of in-
structors (particularly in the aviation
community) in the middle rates. Flight sim-
ulators have increased efficiency, but also
increased the workload of instructors with a
resulting morale problem. CNTT listed the
following current objectives in the formal
school house arena: (1) Standardization of
courses taught at more than one location;
(2) Follow-up on teaching skills developed in
basic trainer courses with an on-the-job
period when these skills are consolidated and
reinforced under supervision; (3) Training of
trainers and supervisors of trainers in stu-
dent motivation and trainer leadership behav-
ior; (4) Introduction of computer-managed in-
struction into group-paced classrooms;
(5) Increased emphasis upon team training;
(6) Introduction of stand alone training de-
vices for simulated equipment operator and
maintenance skill training.

D.   What procedures are used to evaluate the per-
formance of trainers in training centers, schools, and
units (your organization)?

In operational aviation units, respondees
mentioned internally tailored systems to
evaluate trainers, including initial IUT
training, NATOPS, quarterly and semi-annual
evaluations, standardization boards, and PQS.
Surface units indicated quality assurance
programs, personnel evaluations, monitoring
by supervisors, critique sheets, and reports
to the next higher level of command.   Subma-
rine respondees mentioned unannounced monitors
from COMSUBPAC and staff agencies in classrooms,
and monitors on board ship during ORE/I and
shakedown cruises.   In general, evaluations
are largely subjective rather than objective.
The response from CNTT summarizes the shore
establishment answers as follows: NAVEDTRA
110 - Procedures for Instructional Systems
Development, a manual prescribing policy on
training throughout the Naval Education and
Training Community, stipulates that each
trainer shall be evaluated at least four
times each year with approximately ninety
days lapsing between each evaluation.   More
frequent evaluation is encouraged.   Two
standard forms for evaluation are contained
in NAVEDTRA 110:   Instructor Evaluation Form
CNET-GEN 1540/4 for the trainer in the group-
paced environment, and Learning Supervisor
Evaluation Form CNET-GEN 1540/5 for the
trainer in the self-paced learning environ-
ment.   Trainers are evaluated by course su-
pervisors and/or by personnel from curriculum
and instructional standards offices.   Formal
examinations on both theoretical and practi-
cal subjects are required for graduation from
instructor, supervisor and management schools.
A period of in-service training or "break-in"
time is conducted after instructors are as-
signed to the school or course in which they
will instruct.   During this period, the pros-
pective instructor may go through all or part
of the course that he will instruct as a stu-
dent, and will then begin limited instruction

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(perhaps as a lab/shop assistant) under close
supervision/evaluation.

E.   What criteria are used to determine whether
an individual has been certified as a qualified trainer
in your organization?

Criteria used to determine trainers' qualifi-
cation in the aviation community included
formal courses at the Replacement Air Group
(RAG), in-house IUT programs, NATOPS, courses
given by the Naval Air Maintenance Program
(NAMP), and PQS. Criteria used by surface
units include formal class attendance, speci-
fic NEC, PQS, technical competence, and abil-
ity to communicate. Criteria used are infor-
mal and based almost solely on experience and
shore-based formal schools. (Comment: the
Blue/Gold Fleet Ballistic Missile submarine
cycle was not mentioned.) CNTT determines
qualifications as follows: Successful comple-
tion of the Navy instructor basic course cer-
tifies that the graduate is qualified as an
apprentice trainer. Successful completion of
the learning center instructor course quali-
fies the graduate to serve as an apprentice
trainer in the self-paced environment. Each
training center or school has a six-month
period following the apprentice trainer's
graduation from the formal training course
during which the prospective trainer receives
supervised teaching experience. At the end of
the six months, the training center or school
recommends whether or not the classification
code (NEC) indicating an individual as a qual-
ified trainer should be continued or revoked.

F.   What system is used to ensure that the trainer
is competent within the occupational field and skill
for which he is responsible?

Trainer competency in aviation units is de-
termined by C.O. recommendation/BUPERS record
screen for personnel sent to RAGs, technical
competence, FRAMP School, NAMTRADET, PQS and
local IUT (with standardization boards between
unit) programs. Surface and submarine units
use PQS, recent fleet experience, performance

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evaluation, and direct observation. As one commanding officer put it: "The nature of shipboard operations is likely to quickly identify good or bad instructors rapidly." Initial qualifications were made through contractor training. CNTT determines competence as follows: "The trainer, by virtue of his rate and NEC, along with alternation between sea duty and shore trainer assignments, is competent within the occupational field and skill for which he is responsible. If the trainer is to teach new equipment not yet in the fleet, the practice is to send him to a factory training course to qualify on the equipment."

G. How much training do first line supervisors receive in instructional techniques and procedures?

In aviation, surface, and submarine units, limited or no formal training of first line supervisors on instructional techniques was indicated. Most training was done in-house using techniques and programs already initiated. Limited TAD funding in the aviation community was cited as a cause for reduced attendance. CNTT gave the following response: "First line supervisors are typically assigned to instructor billets, and will have been detailed to instructor training school enroute to their command billet. Their training in instructional techniques and procedures is, therefore, the same as that of the trainers they supervise. Before taking up their supervisory responsibilities, they may, as required by individual commands, be expected to undergo a trainer qualification procedure."

H. What roles do higher headquarters play regarding the preparation of trainers and managers of trainers?

CNO provides guidance to CNET, and to the Deputy Chief of Naval Operations (Manpower, Personnel, and Training). Authority is then delegated to the Fleet Commanders, who in turn, delegate it to the Type Commanders (Air,

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Surface, Subsurface). Responses to the questionnaire at the operational level indicate that higher headquarters details individuals to school while enroute to a new command on the basis of required/possessed NEC. CNET's role is as follows: "Personnel standards for instructor duty are established by the Bureau of Naval Personnel. Special courses of instruction for instuctors and supervisors are developed and approved by CNTECHTRA and CNET, with standard instructional procedures. Follow-up evaluation of performance is accomplished by formal directives of CNTECHTRA and CNET."

I.   What changes are planned in trainer and training manager preparation in the event of full mobilization?

Many responses were "not applicable" or "none". Changes which were mentioned included increases in instructor levels and/or augmentation by reserves, and longer work days/weeks. No changes are anticipated aboard ship.

J.   What changes and recommendations would you make regarding the preparation of trainers and training managers?

Approximately one-half of the responses were none/no comment, etc. Suggestions regarding the preparation of trainers and training managers included having trainers with recent experience in type of equipment, required formal training on instructional techniques and procedures, priority detailing to instructor billets, a trainer "charm" school for senior pay grades ordered to training management assignments, training for department heads as well as XO/CO programs, closed loop detailing, formal training for unit trainers and OJT managers, and research to determine optimum "break-in time" for instructors to better schedule turnover time.

K.   What experience, if any, has your organization had with contract training (industry, private contractors)? Give details, results and reactions.

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Operational units indicate that on-site contractor training is used extensively for new equipment. In some cases, technical representatives are carried onboard ships. Examples cited include: Civilian Electronics Technician Afloat (CETA), who supplement Navy technicans and provide OJT/lecture type training; and Technical Associates New Orleans (TANO) who provide maintenance and training services for automatic propulsion systems. The results in both cases are rated as excellent. CNTT responded for the shore establishment as follows: "... Have had extensive experience with private contractors (factory) training on new equipment coming down the line. We commonly find that the training is conducted by engineers who have not been trained in instructional techniques and procedures. In general, private contractor training can be characterized as traditional, rote-memoritor, and lecture-demonstration method. Test items, typically, have not been validated. A large proportion of test items, first developed for use in a contractor course and later submitted as a deliverable to the Navy, are frequently returned as unacceptable. Contract training in which existing Navy courses are taught at the contractor site has been somewhat limited in the past, due largely to the rare instances in which contractors can obtain the economies of scale and flexibility for quick changes in requirements.... Small contracts have been used in recent years at Syracuse University for certain advanced photographic training, and at Hughes Aircraft for certain unique radar training; where the equipment was too expensive to duplicate in the Command. Also, factory training is frequently accomplished prior to release of new equipment. Contracting in these instances is the only feasible way to conduct this training. Contract training at the military school site, on the other hand, is receiving special attention in the planning for FY 1980 and FY 1981. Some 556 billets and $16 million are involved for FY 80, with both maintenance of instructional equipment and instruction itself involved. This effort is

the culmination of reviews and analyses of
contract potential that began about three
years ago. Some of the specific areas under
review are TRADEVMAN rating training, Basic
Electricity and Electronics, and certain
advanced (Class "C") training. Analysis of
similar training at vocational-technical
schools and at military sites indicates that
the cost per student hour is lower at the
civilian vocation-technical school, but the
cost per graduate actually may be higher.
This is because the civilian schools take a
longer period of time to cover the same mate-
rial. Thus, it appears that due to different
economic pressures, it is efficient for the
Navy to expend additional resources to main-
tain a short course of instruction, where it
is not efficient for the civilian school to
do so. A primary difference is the fact that
the Navy student is, in fact, an employee
receiving a salary and support, and the civil-
ian student is not paid by the school."

    L.   What R&D interface has there been on the topic
of trainer preparation?

Operational responses included references to
ISD and to automated instructor support
which reportedly frees the instructor to "do
training rather than just report it".
CINCPACFLT mentions R&D in the area of trainer
preparation, and comments that "training
management texts written at the graduate level
are hard for the average trainer to under-
stand". CNTT responded as follows: Research
has tended to center on the self-paced environ-
ment, to the exclusion of group-paced and team
training environments. The trainer (instruc-
tor) role in all training settings needs sharp
definition. Extensive literature and project
surveys have been made to determine optimums
for instructor contact time with students, for
preparation and related duties, for instructor
training, and for ratios of instructor super-
visors to instructors. The literature reviews
have included both civilian and military re-
search and experience, the former covering

educational and industrial studies and philos-
ophy. Some recent research projects, mainly
by the Navy Personnel Research and Development
Center, San Diego, have related to trainer
preparation. One of these is "Practical
Problems in the Implementation of Individual-
ized Instruction"; another is on an "Instruc-
tional Quality Index" used in workshop analy-
sis. ISD techniques are also utilized in
trainer preparation.

M. What effect does personnel turbulence have on
trainers and supervisors of trainers? Describe the ex-
tent of personnel turbulence in your organization?

One-third of the respondees stated that turbu-
lence was significant. Two-thirds of the
respondees indicated that turbulence was a
fact of life, and not a major problem. Some
units indicated turbulence was an advantage
since it constantly infused new ideas and up-
dated training programs. Personnel shortfalls,
poor retention (aviators), and the gapping
of billets were cited as problems. Detailed
in-house IUT programs impacted heavily on
student training when high instructor turn-
over rates occurred, because instructors
ended up training other instructors and not
students. In units where instructors were
prescreened and higher quality people assigned,
turbulence problems were less because talent
took up the slack. CNTT responded as follows:
"Undermanning of training commands frequently
forces the commands to assign trainers (in-
structors) to dual duty, affects planning
rotation of trainers, and curtails on-the-
job training of trainers. Cyclic heavy loading
of students into courses necessitates a large
number of trainers for those parts of the
school year when the heavy loading occurs. If
these trainers are to be used efficiently
throughout the school year, cross-training may
be required to teach other courses or equip-
ment. The cross-training requirement takes
time out of their availability to serve as
trainers. Cyclic loading also affects the
instructor training schools which are manned

for a sustained even load throughout the year. Heavy cyclic loading of the instructor training schools results in long waits to get into the school, and results in some trainers being detailed to a command without enrollment in instructor training school enroute. This factor, in turn, disrupts the command trainer qualification program. The command either has to provide its own trainer training program or delay platform assignment some months down the line until such a time as a seat in a formal instructor training school becomes available. Personnel turbulence on the staff has been most disruptive, particularly, in the officer area. Officer billets are frequently gapped, sometimes for over two years, resulting in a continual reassignment and doubling up of tasks. Two kinds of personnel turbulence exist in the CNTT, one relating to student workload and the other to staff manning and turnover. Annual, seasonal, and intermittent cycles in student input result in severe problems in matching workforce with workload. Military staff turnover, in addition to the problem of getting bodies to fill authorized billets, carries with it the inherent requirement for retraining of trainers about every three years. The extent of personnel turbulence for students is very large, with variations in overall command workloads of as much as twenty percent between peaks and valleys measured from the average. For specific courses, or classes of training, the variation may be much greater. For example, the planned monthly recruit loading for the first half of 1979 ranges from 5001 to 8438; a minus sixteen to plus forty-one percent deviation from the average."

III. Content of Training

A. How does your organization determine training content?

Units and schools in the operational chain of command make proposals based on existing course content, periodic course content review,

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analysis of equipment, Quality Deficiency Reports (QDRs), aircraft incident reports, and local requirements. These proposals are forwarded through the chain of command for comment. Major curriculum changes are instituted by the warfare sponsor acting on behalf of the CNO. Recommendations may receive interim approval at the Type Commander level while awaiting final CNO approval. The response from the CNO indicates that his staff also participates actively in the front end analysis. The ISD process is the approval authority for solicitation of training devices and simulators, and validates (as opposed to determines) training requirements and syllabus content. CNTT indicates that the school house training is strongly linked to the indicators of training effectiveness and fleet feedback. He specifically points out task analysis, instructor feedback, annual course reviews, and direct fleet feedback. Course content also originates within the expertise of the staff training program coordinators, and other subject matter experts, through the Navy training plan and other conferences.

B.   How much of the training curriculum or schedule is within your control? How much is delegated to subordinate commands?

The vast majority of operational headquarters indicate that they have no control over the curriculum, or that review takes place at the Type Commander level (COMNAVAIRPAC/LANT, COMNAVSURFPAC/LANT, etc.). Large-scale unit training (fleet exercises) is usually scheduled by the Fleet Commander. (Analyst comment: Preparation for these exercises and for individual unit readiness to accomplish the mission is the responsibility of the unit CO. No reference is made of this because questionnaires did not go to the unit level.) CNTT answered as follows: Guidelines for development of curricula and schedules are established by CNTECHTRA/CNET. Actual development is performed by the training activities and schools; with the assistance of activity curriculum and instructional standards offices,

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and of ISD personnel. Curriculum content, as
distinguished from scheduling, requires ap-
proval of CNTECHTRA or higher authority for
major changes. Curriculum development respon-
sibility for "A" school courses has been as-
signed by CNET to instructional program devel-
opment centers (IPDC) which are to be estab-
lished at five training centers. IPDCs have
been established at San Diego and Great Lakes,
with partial establishment at Norfolk and
Pensacola. IPDCs are not under the command
of CNTECHTRA.

C.   Does your organization utilize:

(1) A Commander's policy document that out-
lines the priorities of training?

More than sixty percent of the respondees
indicate that they utilize a Commander's
policy document which outlines priorities for
training. Those responding negatively in-
clude operational staffs which are outside
the traditional training chain of command.
Notable exceptions to this are COMSUBGRU
EIGHT, COMSUBGRU TWO, and COMSUBLANT, who
either did not answer the question or answered
negatively without explanation. Documents
which are used include:

> OPNAV 1500.33
> CNAL 35, 1510.21
> CHSW-1 3500 (proposed)
> COMNAVSURFPACINST 3590.1B, 1500.1A,
>   1500.3B
> COMNAVSURFLANT TRAINING AND READINESS
>   MANUAL (TREADMAN)
> COMNAVAIRLANT INST 1510.21B
> COMSECONDFLT OPORD 2000

CNTT uses OPNAV 1500.33, which is currently
under revision. It reportedly will give a
methodology for determining course priorities.

Does your organization utilize:

(2) Annual training plan?

Approximately seventy percent of the respon-
dees indicate that they use an annual train-
ing plan. Other respondees indicate "no" or
"not applicable".

Does your organization utilize:

(3) A master training schedule?

Approximately seventy-five percent of the re-
spondees indicate that they use a master
training schedule of some description.

Does your organization utilize:

(4) A training syllabus?

Approximately sixty percent use a training
syllabus.

Does your organization utilize:

(5) A uniform method to evaluate training?

Approximately fifty percent of the respondees
indicate a uniform method to evaluate training.
Approximately thirty-five percent of respon-
dees indicate no uniform method to evaluate
training, and the remaining fifteen percent
report "N/A". Those who amplified their an-
swer indicate that there are numerous methods
which are uniform "in-house"; but no methods
other than NATOPS and FORSTAT which have wide
applicability. (Analyst comment: Detailed
maintenance manuals exist which are updated
frequently and are available for OJT use.
This was not reflected in the response because
of the level to which the questionnaires were
distributed.)

     D.   Assuming your organization does the above or
portions of the above, how well do your units follow
the preplanned planning guidance? If not, explain why
they do not or cannot follow the guidance.

Approximately thirty percent of the respondees
indicate that they follow preplanned guidance
rigorously, or very well. Another forty-five

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percent believe that they follow guidance acceptably well, depending on preemptive assignments and other external restraints. The remainder answer "no" or "not applicable".

E.   What procedures and steps are followed:

(1) to introduce new training content?

(2) to delete training content?

Approximately twenty percent of respondees indicate none, N/A, or no comment. Introduction of new content generally comes through the fleet feedback process and Navy training plans. The order of steps depends upon the source. CNO/BUPERS may initiate content changes as a result of rating reviews, warfare sponsor conferences, etc., and pass them down to the training command. Instructor feedback, task analysis, PTEP results, etc. may originate within the training command. The requesting agency forwards proposed changes via the chain of command. Three magnitudes of change in curricula are recognized. Type C changes (minor) may be made directly by the schools. Types A and B require approval of higher authority (usually CNO). Unit training may be modified through analysis of fleet exercises to improve both readiness and planning for the next exercise.

F.   What changes and recommendations would you make regarding the content of training?

More than ninety percent of the respondees indicate that they had no recommendations. Advanced Technology, Inc. has contracted to perform an analysis of the Navy Recruiting Command orientation and training program. One unit suggested more intra-ship/inter-ship team training. CNTT answered in the following manner: The key to valid course content is to ensure that the content matches fleet job requirements, or facilitates the additional OJT required. (Greater participation of the fleet in direct, continuous, structural evaluation of courses and graduates is needed. In the

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past, a "graduate evaluation card" has accompanied graduates to their fleet assignments. However, the percent returned was very low. A recent CNO directed program for better evaluation through fleet and training command joint efforts should improve the feedback system. For equipment oriented training, better knowledge of the rate of equipment deletion from the fleet is needed. Better coordination is needed between the fleet and the schools to accomplish training on the tasks that are actually being performed in the fleet.

IV. Training Methods

A. What procedures, if any, are used to determine absolute and relative costs of the training methods currently in use?

Approximately two-thirds of the respondees indicate "none" or "not applicable". The remainder indicate a variety of procedures to determine absolute and relative costs, many of which were locally generated. No common methodology appears to exist. It appears that, in most cases, specific training costs are not broken out. CNTT answered as follows: "Absolute costs of individual courses are produced through a formal course costing system. This system is not normally used to determine relative costs of different training methods. The costing is conducted by CNET and produces prorated overhead/indirect costs per man-month. Special studies have been made from time to time to compare costs of group-paced versus self-paced instruction. Generally, these cost procedures have been based on the savings in student load from shorter course lengths as a trade-off against the costs of self-pacing. The results are not completely definitive, however, due to the difficulty in separating the savings from self-pacing, per se, from the savings from course restructuring preceding self-pacing."

B. How are new training methods developed and what steps are followed to implement them?

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Approximately fifty percent of the respondees
indicate "N/A", "none", or "unknown". Many
units mention locally generated methods in-
cluding tactical memos, lessons learned, R&D,
comparative analysis, training improvement
boards, ISD, task analysis and directives.
NTTC indicates the following: "Major changes
in training methods (for example: computer
managed instruction) will go through an R&D
process; beginning with formal planning and
development funds, and proceeding through
standard R&D steps to operational implementa-
tion. Course specific changes in training
methods (for example: use of new training
aids (simulators) may originate within the
schools, with or without help from other
agencies, such as the Navy Training Equipment
Center. Factory training for new equipment
may also be a source of changes in training
methods. In general, such changes will be
reflected in new or revised curricula and
master schedules)". One response from a major
Naval Training organization stated "There
have been no significant new training methods
developed by this command in the past 30
years."

C. How are trainers trained to use newly developed
methods?

Approximately forty percent of the respondees
indicate "N/A" or "none". Fifteen percent
indicate OJT is the primary method. Forty-
five percent indicate that some sort of formal
training is used to train trainers in new
methods. CNTT answers as follows: New meth-
odologies are incorporated in formal instruc-
tor/learning supervisor courses if the methods
are to have general application. The best
example of this is the special phase of in-
structor training devoted to learning super-
visors who will instruct in self-paced courses.

D. What changes and recommendations would you
offer concerning training methods?

Approximately sixty percent of the respondees
reported "none" or "not applicable". Recom-
mendations were made as follows: (1) Make a
concentrated effort to use the best technology
available; (2) Increase professionally pre-
pared audio visual material; (3) Expand utili-
zation of ISD; (4) Eliminate redundant train-
ing; (5) Train on the same equipment used in
the fleet; (6) Reemphasize standardization to
ensure all trainers and managers are current
in every aspect of training methodology. Need
more personnel to accomplish; (7) Increase
TAD funds for schools; (8) More hands-on train-
ing; (9) Assign a reserve group to return to
the same active duty unit every year to pro-
vide continuity to the operation during
changes of administration; (10) Educate mili-
tary managers on proper utilization of civil-
ian educators, and cost control. Evaluate
CO's on quality training as well as cost ef-
fectiveness; (11) Shift to better accounting
procedures to allow for amortization of in-
vestment.

E.   Are there any changes contemplated in training
methods in the event of full mobilization?

Only two responses were received which sug-
gested changes during full mobilization:
(1) accelerate the training pace, and (2) pro-
vide extensive OJT for reserves.

V.   Training Effectiveness

A.   Describe the methods used to measure the effec-
tiveness of training. Cite specific examples. Include
reports and data (how it is collected, how often, etc.)
measuring effectiveness. Describe how these measures
relate to effectiveness.

FORSTAT, a very subjective measure, was cited
by several respondees as a common training
effectiveness indicator. Other identified
measures of effectiveness usually spanned no
more than one or two levels in the chain of
command. Examples of these are Nuclear

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Weapons Acceptance Inspection, Navy Technical Proficiency Inspection (NTPI), Operational Reactor Safeguards Exams, Operational Readiness Exercise/Inspection (ORE/ORI, Technical Training Audit Maintenance Data Subsystem, NATOPS Casualty Report, Advancement Exams, Command Inspections, Post Deployment Debriefs, PQS, and the end product produced by operational units.

B.   Where is this information sent?

Measures of effectiveness are generally held at the Type Commander level or below. Some responses indicated they are forwarded to CNET, or to the appropriate Warfare Sponsors. Approximately twenty percent of the respondees indicate that information is retained in-house, and another thirty percent indicate the question is not applicable. Feedback loops, where they exist, appear to be constrained to the lowest levels of command.

C.   What feedback is received after it has been forwarded?

Approximately forty-five percent of the respondees indicate that no feedback is received after information is forwarded. Other units consistently describe management techniques which can be characterized as management by exception; i.e., feedback is received when changes are desired.

D.   What is done with it in your organization?

Units use feedback to correct weak points which have been highlighted by the feedback system. Examples include attempts to monitor the success of the unit's program, improved training methods, improved course content, or improved cost effectiveness. "Management by exception" appeared to be the rule in that the feedback system was used to point out discrepancies only. One Type Commander summarized by saying that if a unit was inspected and

certified, it was routinely chopped to an operational commander. If a unit failed certification, he was given assistance. The belief is that the unit is "ready to go" unless specifically identified as "not ready".

E.   What steps are taken to validate the accuracy of this effectiveness data?

Respondees indicate that there is little attempt to formally validate effectiveness data. CNTT responds as follows: "In some instances, special studies have proved the efficacy of the data. For example, a study some years ago by Applied Psychological Services, Philadelphia (Dr. I. Seigel), showed that instructor feedback on fleet jobs yields essentially the same results as on-site job surveys in the fleet."

G.   To your knowledge, has there been any R&D interface on this topic? If so, what type?

The only areas of R&D which are identified are projects in TAEG and NPRDC.

VI.   Situational Factors in Training

A.   What interferes with the planning and conduct of training? Describe how it interferes.

Approximately one-third of the respondees cite some part of the budget planning process as having an adverse effect on training. Complaints center around lack of lead time to set up training supporting new equipment; and reductions or fluctuations in the budget, which preclude stability required for long-range planning. Approximately twenty percent of the respondees indicate a lack of support equipment required to train. In most cases, it is a shortage of ground support equipment, or essential test equipment. Approximately twenty percent indicate that overscheduling units or individuals is a significant problem. Fifteen percent indicate personnel turnover is a problem.

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B.   What percentage of the average unit duty week is spent in mission essential training?

Navy data may not be reliable because of varying definitions of mission essential training. Not enough responses to this question were received to establish any trends.

C.   What percentage of the average unit duty week is spent doing non-mission essential actions/duties?
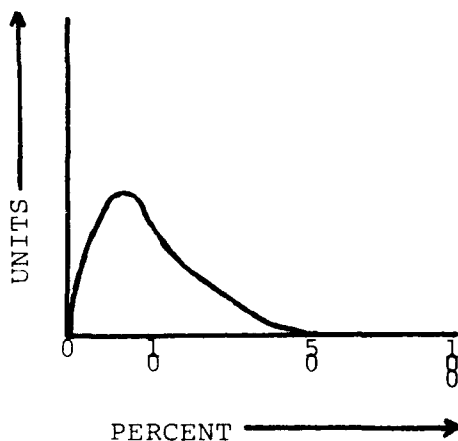
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Navy data may not be reliable because of varying definitions of mission essential training.

D.   What changes and recommendations would you offer to alleviate the problems identified above?

Approximately fifty percent of the respondees answer "NONE or "N/A". Other responses indicate a need for higher authority to do long-range planning prior to further reductions in training assets (assess the impact in advance), an increase in personnel stability, support for the HARDMAN/MODMAN projects, establishing a clearcut policy for CHNAVMAT funding of training support items, providing quick reaction funding to train for "off-the-shelf" items, and making every effort to level class loading through judicious scheduling.

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E. Identify those policies and/or directives which (1) enhance training operations and output, and (2) hinder training operations and output.

Those policies which are cited as enhancing training are Fleet Commanders Quarterly Conferences, the Battle Efficiency Competition/ Departmental Excellence Award Program, operational stand downs, conduct of training away from the unit, increased use of mobile training teams, incorporation of the Navy wide PQS program, and the "NEEDS" System for planning and executing training. Directives which are cited as enhancing training include:

OPNAV 1500.8
      4490.2
      1550.28
      1500.11G
      1500.34A
COMNAVAIRPAC 3590.1B
             5400.15E
             1510.14G
             1551.1
COMNAVAIRLANT 1510.1C
              1510.21
COMNAVSURFPAC 3590.1B

Detractors to training operations are heavy operational commitments, excessive administrative paperwork, and limited ship steaming hours. CNTT comments that hinderance in training is not so much apparent in bad policies or directives as it is in "lack of clear policies/directives".

F. Was programmed mission essential training constrained or curtailed, or your command's ability to accomplish its mission adversely affected by budget considerations? If so, please give examples.

Mission essential training is affected most at the lower levels to which the questionnaire was sent. Since the questionnaire was not sent to the lowest unit level (ship, squadron, etc.), the full impact is not known. At the fleet level, indications are that training

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programs are not constrained. Type Commanders anticipate dollar reductions, budget for them, and accept them. Below the Type Commander level, mission essential training is constrained in the form of reduced TAD funds (Pacific Fleet), reduced ship steaming hours, and reduced expendables (buoys, deception devices, decoys, torpedos, etc.). DPS-040, PBD-148, and PDMs are cited as specific examples of problems which have a major impact. The following quote from COMNAVSURFLANT provides an idea of the impact on the fleet: "Adequate TEMADD funds were available to CNSL in FY 78 for mission essential training. No curtailment of needed training because of lack of allocated TEMADD funds in FY 79 is anticipated. Mission essential training is curtailed, however, by monetary/personnel cutbacks in the training establishment. Lack of adequate numbers of instructors, infrequency of scheduling of courses, limited class size, cancellation of previously scheduled courses, and single-siting of many courses contribute to inadequate quota availability to meet the training requirements of units." Table C-1 shows the backlog of needed training.

CNTT spells out some of the direct impact on the schools as follows: "If 'budget' considerations include manpower, the direct mission of training has been strongly (and adversely) affected. If 'budget' refers to dollars only, many areas are affected that indirectly support training, e.g., utilities, maintenance, supplies, processing of personnel, etc., and in some instances, training itself. For example, the new training requirements for crash crew firefighting will not be met if additional funds for foam and other supplies are not secured. The mission of training has been particularly hurt by recent staffing cuts. The final impact of DPS-040 will not be known for some time, but even with pre-DPS-040 staffing, and overall student inputs below plan, the training command has been forced to backlog students (e.g., BE&E and Polaris); delay inputs (e.g., NAVGMSCOL);

TABLE C-1. Navy Training Backlog

Training	CNSL Sea Duty Manning Level	Normal Backlog*
Communications Security Devices Tech (KG-14, KW-37R)	62%	5 months
AIMS MK XII (IFF System) Tech	44%	8 months
Antisubmarine Air Controller	88%	5 months
Air Intercept Controller	72%	12 months
Dead Reckoning Analyzer Indicator (DRAI)/Dead Reckoning Tracer (DRT) Maintenance	34%	7 months
5"/54 MK 45 Gun Mount Maintenance	44%	10 months
Electric Motor Rewind	40%	11 months
Low Level Keying Teletype Maintenance	58%	3 months

*Source: COMNAVSURFLANT

> delete classes (e.g., BE&E, OS-A, CTR-A). The
> impact has also been reflected in a work week
> for instructors and support personnel in ex-
> cess of the CNO standard for shore activities."

G.   When in FY 1978 and FY 1979 did your command
receive its approved training resources (dollars,
training ammunition, etc.)? When should you receive it
in order to achieve effective decentralization of
training?

> Over one-half of the respondees indicate "N/A".
> Very few indicate that funding is late or
> that there is a significant problem as a re-
> sult of receiving it late. Several respon-
> dees indicate that better planning could
> be accomplished if funding were received
> prior to the fiscal year.

H.   Did your command receive year end monies in
FY 1977 and FY 1978?   If so, what percentage was used
for training or training related expenditures?

> Only two respondees report that "year end"
> monies were received.

I.   Could you more effectively use year end monies
if allocated at the beginning of the fiscal year?   Or
halfway into the year?

> Respondees indicate that they could best use
> money at the beginning of the year.

J.   How is the information derived from your
training effectiveness and efficiency indicators trans-
lated into training dollar requirements?   How do you
formulate your budget requirements?

> Approximately forty-five percent of the respon-
> dees indicate "N/A".   Methods used to formulate
> budget requirements are: use of historical
> data, student trainee workloads, projection,
> Fiscal Year Training Operations Plan, Navy
> Training Plan, TAD requirements, FORSTAT, EDVR,
> TREADMAN, and flight hours.   A new system is
> reported to be under development to translate
> training cost accounts and productivity data
> to training dollars (NAVSUPSYSCOM).

K.   What method is used in deciding when combat
effectiveness must override pure dollar efficiency?
For example, what rationale is used to determine the
need for live missiles vs. electronic simulators which
will insure fully trained gunners?

> Approximately one-half of the respondees
> answered "N/A".   Most of the remaining respon-
> dents want quality training to be the foremost
> factor in the decision process.   When simula-
> tion has equal or greater training value, they
> opt for that cost saving option.   The deci-
> sions are made on the basis of (Type Commander
> and Warfare Sponsor) subjective decisions
> which are based on recommendations from TAEG,
> contractors, and the ISD process.

L.   What would you suggest to improve any aspect

of the training dollar acquisition or allocation?

> Approximately three-fourths of the respondents answered "N/A" or "none". Suggestions which were offered include a system which would provide easily identifiable audit trails throughout the PPBS, identify personnel billets for new equipment earlier in the cycle, and actively solicit and give commensurate credence to the Operational Commander on the impact of training resource shortfalls.

M. What are the problems with training and training management not addressed in the above areas and what can be done to correct them?

> From CNTT: "At certain points in the discussions above, various problems and suggestions have been surfaced. Two or three of these are deemed worthy of reemphasis at this point: (a) Training for a considerable time has been in a state of upheaval and instability, rife with conflicting views of its role, its importance, and how it should be organized and operated. Numerous major studies have been made of training organization in the Navy (CRESAPS, Lee Board, Cagle Board, Booz, Allen and Hamilton, et al). The concensus of most of these studies has been for a strong focal point for training in Washington, along with a strong field organization. The level of command and clarity/visibility of the training organization (as distinguished from "manpower" organization), should at least approach that of the U.S. Air Force and U.S. Army. This does not appear to be the case in the new CNO OP-01 organization. Clear responsibilities and visible lines of authority for training planning, operations, and evaluation should appear in the organization; (b) Training organization in the Navy should be stabilized, with no major changes, for ten years; (c) The "seed-corn" philosophy described earlier should be established as a means for long-term solution of the Navy's fleet manning problems; (d) The point should be made clear to Congress and all echelons of the Navy, until

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it is recognized as axiomatic, that training
will be both more effective and more efficient
if it is done by a Commander (1) whose primary
mission is training, and (2) who can do that
training economically on a mass production
basis." From COMPATWINGSPAC NAS Moffett
Field: "In addition to the Combat Effective
Management Study Group, within the past year
this area has been investigated by the General
Accounting Office and a Navy Audit Team. The
GAO study was completed in five months and the
Navy Audit Survey is now ongoing. Reduction
of redundant management studies would be in
the best interest of improved training. The
few scarce instructor assets now available are
further diluted to satisfy management study
team demands."

U.S. MARINE CORPS TRAINING OPERATIONS

I.   Location of Training

A.   On what basis are decisions made as to whether
a particular training program should be conducted in the
unit or in a formal school? What role do budgetary con-
siderations play?

> Respondees at the squadron or company level
> indicate that decisions on unit or formal
> school usage are made by higher authority,
> and are based primarily on the availability
> of school quotas. Wing and battalion comman-
> ders appear to split allocations of school
> quotas given to them on an as needed basis.
> Budget constraints are not considered to be a
> problem at this level, but availability cre-
> ates minor problems. Coordination of opera-
> tional commitments, large exercises, avail-
> ability of personnel, and the number of
> qualified instructors within the unit have a
> significant impact on where and how training
> is conducted. Emphasis is placed on where the
> highest quality of training can be received.
> It is perceived that the highest quality
> training comes from formal schoolhouse train-
> ing and mobile team training, not in-house
> unit training (i.e. OJT).

B.   What changes and/or recommendations would you make regarding training location (unit vs. school)?

> Most units had no recommendations. Units responding with recommendations were split evenly as to whether they emphasize school or unit training. Those units desiring more formal school training emphasize that a forward deployed unit should be combat ready, and that shifting training to the unit (away from the school) lowers combat readiness. Export also becomes critical during rapid expansion and deployment (e.g. there will be no local in-house machinery set up to do any training). Those units advocating more unit oriented training seem to lean towards mobile training teams, and local schools for expertise. In-house generated training lacks the expertise, time, and personnel to be of high quality. The general impression is that initial training should be done in the schoolhouse, with refresher training conducted in the unit. Refresher training quality is probably highest using mobile training teams. Export of training degrades combat effectiveness, and draws assets away from combat training. When operations and training conflict, training loses.

C.   What is the current policy/position on joint service training of common tasks at a single site?

> The vast majority of respondees had no opinion. Those answering favored joint service training by a five to one margin, so long as Marine Corps identity and standards could be maintained. Many units appeared to define Joint Service Training as training with the Navy, and did not consider other Services.

D.   What is the level (division, squadron, wing, etc.) of your organization, and what are the functions your organization has in arriving at joint service training policy and positions? What function does your higher headquarters have?

> Most units declined to answer. Those responding (through division level) deferred to the

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next higher level of headquarters.

E.   What changes are planned in the location of training (unit vs. school) in the event of full mobilization?

Full mobilization training is not addressed from the division level down. Units believe they will deploy, and all training will be done in-house. Several respondees indicate that NAMTRADET will play a major role, and that all MOS training in the unit will revert to formal schools. One-third of the units responding indicate that there will be no change. Contingency plans apparently are not well-known.

II. Preparation of Trainers and Managers of Trainers

A.   Where in the training establishment are individuals formally trained to: (1) conduct training? (2) supervise the conduct of training?

Seventy percent respond that trainers receive formal training; while forty-two percent respond that training supervisors receive formal training. Many of these attend SNCO/NCO and Officers Basic School, in which training instruction is a minor part of the curriculum. Twelve percent say that supervisors receive no training. Many respondees indicate that the ability to train or supervise training is inherent in rank or command.

B.   Is this training the same for trainers assigned to training centers, schools, and units?

Training is more formalized for the trainers in the centers and schools. Unit instructor training is not as extensive.

C.   What are the current trends?

Many experienced trainers are leaving the Marine Corps. More and more training is being exported to the unit level as cuts are made in the schoolhouses. No improvement in the situation is seen in the near future and

unit commanders are trying to fill gaps by
sending trainers to school and upgrading in-
house techniques. Trends are towards more
hands-on/performance oriented training and
less on traditional classroom training.

D. What procedures are used to evaluate the per-
formance of trainers in training centers, schools, and
units (your organization)?

Ten percent of respondees indicate that units
do no evaluation of their trainers. Forty-
six percent of all respondees point to a sub-
jective evaluation by the training supervi-
sor, commander, or by an inspection team.
Student critique sheets account for twenty-six
percent of evaluations, and student perfor-
mance (individually or as a part of a unit)
account for sixteen percent of evaluations.
All in all, evaluation of trainers, particu-
larly at the unit level, is almost entirely
subjective rather than objective.

E. What criteria are used to determine whether
an individual has been certified as a qualified trainer
in your organization?

Twenty-two percent of respondees indicate that
no criteria are used. Twenty-eight percent
say observation by supervisors, and eighteen
percent say job experience; both subjective
measures, are the criteria. Written and oral
tests and graduation from schools, both objec-
tive measures, account for twenty-seven per-
cent. Eight percent state that rank is the
criteria. Sample comments include: "Rank and
job assignment/skills are considered prima
facia/All officers are considered qualified/
Individual with an MOS is considered qualified
to train other individuals in that MOS/etc."
The wide dispersion of answers, coupled with
the twenty percent "no criteria" responses,
suggests the criteria are neither well-defined
nor well known.

F. What system is used to ensure that the trainer
is competent within the occupational field and skill for
which he is responsible?

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Personal observation is by far the most common method used to determine the competence of instructors. Screening, formal schools attended, long experience in field, student performance, and critique sheets are also mentioned.

G. How much training do first line supervisors receive in instructional techniques and procedures?

Approximately one-half of the respondees state that no training is given, other than that in the Marine Corps formal school system. Twenty percent say that limited, minimal, etc., training is given in the unit. Twenty percent say ongoing unit training and OJT are conducted, and ten percent say N/A. The sense of the response is that training is limited to that given in formal schools, which a supervisor may or may not attend; and to minimal training given in the unit.

H. What roles do higher headquarters play regarding the preparation of trainers and managers of trainers?

Higher headquarters allocate quotas and requirements to schools for preparation of trainers and managers of trainers; and in some cases, operate their own schools, conferences, or seminars. However, beyond "hole filling" and basic guidelines for requirements, headquarters does not get very involved.

I. What changes are planned in trainer and training manager preparation in the event of full mobilization?

The sense of the response is that, at operational units, mobilization would have no effect on preparation of trainers or managers. The minority opinion is that training would be reduced, therefore, there would be less need for trainers. "Trainers would become operators."

J. What changes and recommendations would you make regarding the preparation of trainers and training managers?

Many units believe no changes should be made. Suggestions which would improve training include: attempts to retain and stabilize trainers who are experienced, make more quotas available to individual units (quotas for instructors may be needed for Instructor Orientation Training Courses (IOTC)), and make training available nearer to the unit (mobile training teams may be the answer).

K.   What experience, if any, has your organization had with contract training (industry, universities, private contractors)? Give details, results and reactions.

Experience with contract training is generally limited to maintenance training on technical equipment (aircraft, missiles, computers, etc.). The limited training presented is generally conducted by technical representatives who universally are well thought of and sought after. Infantry battalions universally have no contact with contract training.

L.   What R&D interface has there been on the topic of trainer preparation?

At the operating unit level, there appears to be no R&D interface.

M.   What effect does personnel turbulence have on trainers and supervisors of trainers? Describe the extent of personnel turbulence in your organization.

Turbulence is described as a definite problem in most cases, with specific turnover rates from eleven percent to two hundred percent listed. One-third of the respondees indicate a one hundred percent or greater yearly turnover. In many cases, turbulence is indicated as being present, but not a problem. Suggestions to reduce the problem include reducing peripheral training requirements, reducing non-squadron related duties, reducing the turnover rate of qualified instructors, and directing efforts to retain qualified instructors in the services.

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III. Content of Training

A. How does your organization determine training content?

The majority of respondees say that training is mandated by guidance from higher headquarters, doctrine, MCOs, etc. Approximately one-half of this "guidance group" say that requirements are balanced against capabilities; then training on weak areas is emphasized. Several units state that their training content is determined by MCCRES: "train to the test". Several units state that training is geared towards the current mission.

B. How much of the training curriculum or schedule is within your control? How much is delegated to subordinate commands?

This question was answered from several different perspectives. If the respondent interpreted the question to mean "course content", he believed that he had almost no control and delegated little control. If he interpreted the question to ask how he "implemented" training, he believed that he kept little, and delegated a large amount of control.

C. Does your organization utilize:

(1) A Commander's policy document that outlines the priorities of training?

Yes.

(2) An annual training plan?

Yes.

(3) A master training schedule?

Yes.

(4) A training syllabus?

Yes. It is noted that those not using a training syllabus also did not spend a lot of

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extra effort filling out the questionnaire.

(5) A uniform method to evaluate training?

Most units had a uniform, internal method of evaluation. However, methods were not uniform between units of the same larger organization (regt., group, wing, etc.).

D. Assuming your organization does the above or portions of the above, how well do your units follow the preplanned planning guidance? If not, explain why they do not or cannot follow the guidance.

Approximately fifteen percent say that training is followed explicitly with no deviations. Approximately eighty percent say training is followed "most of the time (high percent of the time)". Five percent say they follow guidance poorly, or that it is difficult to follow. The most prevalent reason given for not following guidance is operational commitments. A lesser number of units say they can't comply because of personnel shortages/turbulence.

E. What procedures and steps are followed:

(1) To introduce new training content?

No particular method is widely used, probably indicating that no formal guidelines have been issued concerning new training content. Higher authority and training conferences are indicated most often as the methods most used.

(2) To delete training content?

No particular method is widely used, probably indicating that no formal guidelines have been issued concerning new training content. Higher authority and training conferences are indicated most often as the methods used.

F. What changes and recommendations would you make regarding the content of training?

The thrust of the recommendations is a plea to drop or reduce non-combat related training, and

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increase mission oriented training. Three significant comments: (1) Troops comprehend less than we think; we should teach at a lower level for better training; (2) Consolidate all directives, orders, etc. that require training into one document for better management; (3) Officers and NCOs sometimes spend more time insuring that the records are correct than insuring that the training is good.

IV. Training Methods

A. What procedures, if any, are used to determine absolute and relative costs of the training methods currently in use?

Most battalion/squadron level units neither determine nor worry about costs. Squadrons have no budgetary responsibility. Since costs are not absorbed by the squadron, no attempt is made to determine them. Those that do measure costs are generally concerned with absolute costs, not relative or alternative costs. They generally do not break out training costs per se, but budget for and manage cost elements: fuel, food, etc.

B. How are new training methods developed and what steps are followed to implement them?

Most new training methods are dictated by higher headquarters, with units implementing them according to instructions. Development and implementation at lower levels is much less rigorous than at higher levels; with changed training methods being a result of a unit's reaction to constraints (fiscal, personnel, logistic), etc.

C. How are trainers trained to use newly developed methods?

Most trainers learned their trade at a formal school or via OJT. "How to teach" schools do not appear to be readily available, and new methods are generally learned on the job.

D.　What changes and recommendations would you of-
fer concerning training methods?

> The vast majority of respondees indicate that
> no change is necessary.　Several units indicate
> a desire to place more emphasis on coordination
> between units, and to increase realistic field
> training.　This could be accomplished by in-
> creasing the number of mobile training teams.
> The emphasis throughout is that quality train-
> ing is a must.

E.　Are there any changes contemplated in training
methods in the event of full mobilization?

> The sense of the response is that training will
> be concentrated in units vice schools, that
> non-combat essential training will be elimi-
> nated, and that there will be a shift away from
> training towards operations.

V.　Training Effectiveness

A.　Describe the methods used to measure the ef-
fectiveness of training.　Cite specific examples.　In-
clude reports and data (how it is collected, how often,
etc.) measuring effectiveness.　Describe how these mea-
sures relate to effectiveness.

> The effectiveness measures most often mentioned
> are subjective:　inspections, command evalua-
> tions, etc.　For individual training, written
> and practical tests, and subjective evaluation
> of job performance are used.　For unit train-
> ing, mission performance as measured by MCCRES
> and other methods, and subjective evaluations
> are used.　No respondees treated the subject of
> how these measures related to combat effective-
> ness.

B.　Where is this information sent?

> Much of the information on training effective-
> ness is forwarded to a higher level.　A signi-
> ficant amount is held in-house, with no indica-
> tion of either forwarding or local use.　Indi-
> cations are that the type of effectiveness in-
> formation forwarded varied widely, and is prob-

ably of little value for budget justification. Respondees believe that MCCRES and MCKEES may solve this problem.

C.   What feedback is received after it has been forwarded?

Most feedback is received after something has gone wrong, i.e., management by exception. Very little positive feedback is received. A significant number of answers indicated no feedback at all is received from higher levels.

D.   What is done with it in your organization?

The majority state that feedback is used to highlight problem areas, and reemphasize needed training. Many say that feedback is just filed or "retained for future reference", with no indication of use.

E.   What steps are taken to validate the accuracy of this effectiveness data?

A large number of units indicate that no validation of effectiveness data exists, and/or that none is needed. Inspections and subjective evaluations are the most frequently mentioned validation methods.

G.   To your knowledge, has there been any R&D interface on this topic? If so, what type?

No R&D interface is mentioned by the respondees.

VI.   Situational Factors in Training

A.   What interferes with the planning and conduct of training? Describe how it interferes.

Short notice deployments and quick reaction tasking by higher headquarters were reported by more than seventy-five percent of the units as being a major problem in planning training. Low manning levels, coupled with a low number of qualified trainers is also a significant problem. It is not uncommon to read of man-

ning levels of less than eighty percent. The manning and turbulence problems are repeated not only in this question but in other questions in this block as well. Large numbers of non-mission oriented duties (mess duty, guard duty, TAD to other units, etc.) also impact on the number of trainers and trainees available. Other factors mentioned are lack of adequate training facilities and maintenance problems.

B. What percentage of the average unit duty week is spent in mission essential training?
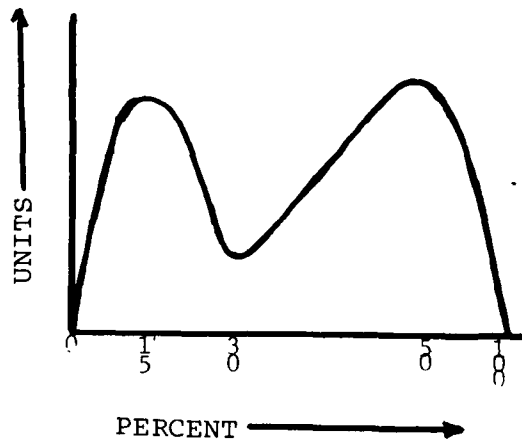
PERCENT ────────▶

The node at approximately fifteen percent represents support unit mission training. The node at approximately eighty percent represents combat units. Aviation/support units did not count maintenance time as mission essential training time. Example: A unit might list fifteen percent combat training, ten percent non-essential training, and seventy percent job operation (mission support to supported combat unit).

C. What percentage of the average unit duty week is spent doing non-mission essential actions/duties?

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UNITS (vertical axis)

PERCENT →

0   50   100
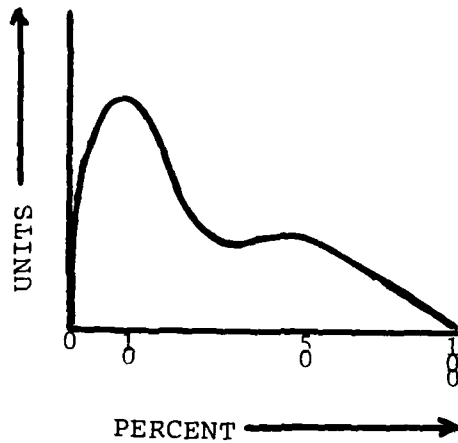
The node at ten percent represents the major-
ity of both aviation/support units and combat
units. The node at fifty percent represents
combat units who cite drill, ceremony, visit-
ing fireman shows, etc., as non-mission essen-
tial work.

D.   What changes and recommendations would you of-
fer to alleviate the problems identified above?

Ideas for improvement are widely varied and in
some cases divergent. Universally, the lower
level units are crying for relief from "non-
essential duties" laid on by higher headquar-
ters (meal card checks, grass cutting, self-
help, etc.). The plea for quality vs. quantity
training is reiterated. Other responses in-
clude stand down periods to do "non-essential
training" in one time block (one or two weeks),
no interruption of combat training periods, and
better long-range planning of operational de-
ployments to reduce short fuze tasking.

E.   Identify those policies and/or directives
which (1) enhance training operations and output, and
(2) hinder training operations and output.

Answers to both these questions are repeats of
previous answers. Several aviation units sug-
gest a "no-fly week" to accomplish non-mission
oriented training. Directives which require

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technical training should also provide TAD
funds to support that training. Units which
are to participate in exercises should be
notified well in advance. Representative
policies which enhance training include MCCRES,
decentralized training, improved deployment/
training trade-off planning, and suggestions
for maintenance/training stand downs. Policies
which hinder training include excessive non-
essential training, duty requirements and
budgets.

F.   Was programmed mission essential training
constrained or curtailed, or your command's ability to
accomplish its mission adversely affected by budget
considerations? If so, please give examples.

A significant amount of programmed mission
essential training was cancelled or curtailed
because of monetary constraints. Examples of
exercises that were either cancelled or re-
duced in scope are:

MAFLEX
MACCS
FIREX 1-79
REDEYE
WINTEX 1-4

About one-half of the respondees list some type
of cutback in exercises which had been planned,
but restricted due to monetary problems.

G.   When in FY 1978 and FY 1979 did your command
receive its approved training resources (dollars, train-
ing ammunition, etc.)? When should you receive it in
order to achieve effective decentralization of training?

Among those responding, in excess of fifty
percent received approved funding at least
thirty days late. Most respondees state that
resources should be approved at least one
month prior to the start of the fiscal year
to permit proper management.

H.   Did your command receive year-end monies in
FY 1977 and FY 1978? If so, what percentage was used
for training related expenditures?

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Answers to this question varied from zero to one hundred percent. A surprising number of respondees indicate that they spent no money at all on training because there was none left over after their technical equipment shortfalls were filled. Some units indicate shortfalls in tank training and light anti-tank weapons (LAW) training.

I. Could you more effectively use year-end monies if allocated at the beginning of the fiscal year? Or halfway into the year?

Answers are not definitive. We need to relook specifically at divisions and battalions for accurate statistics if needed. The question did not illicit the response expected.

J. How is the information derived from your training effectiveness and efficiency indicators translated into training dollar requirements? How do you formulate your budget requirements?

Budgeting is not done at the operating unit level. The budget is usually fenced; except for radio batteries, POL, etc. Budget formulation is made based on established training requirements, exercises, etc. Historical data times requirement equals budget. Increased use of ADP should make this system better.

K. What method is used in deciding when combat effectiveness must override pure dollar efficiency? For example, what rationale is used to determine the need for live missiles vs. electronic simulators which will insure fully trained gunners?

The sense of the response is that efficiency governs. Budgets are never funded one hundred percent. Units buy the best training possible for the money available, and do not spend the money needed to get the best possible training. Extremely "poor" units which are obviously not combat effective are an exception. In this case, effectiveness takes precedence over efficiency out of necessity.

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L. What would you suggest to improve any aspect of the training dollar acquisition or allocation?

> Give the C.O. greater control over his budget. Fully fund deployments. Several units state that they had to pay with their own funds to "prepare" before an exercise, and to "repair" after it. Funds came from their training budgets. Germaine comment: "With a constrained budget, any increase in training budget would have an adverse effect on other pots of money."

M. What are the problems with training and training management not addressed in the above areas and what can be done to correct them?

> There is a need for better overall broad guidance and management (realistic priorities) and less micro management from the top. Example: "Each horse will be watered daily vs. each horse will receive 36 minutes daily at the water trough." Establishment of an MOS for officers and enlisted men is recommended to gain professional training management. There is a lack of adequate training facilities. Safety factors override all other considerations. The question is asked: Are we too safe for effective training? The costs of training, which were formally absorbed by the training establishment and higher headquarters, are now absorbed at the unit level. There are not enough resources to go around.

U.S. AIR FORCE TRAINING OPERATIONS

I. Location of Training

A. On what basis are decisions made as to whether a particular training program should be conducted in the unit or in a formal school? What role do budgetary considerations play?

> All MAJCOM agree that, in general, the decision is made at the MAJCOM level. Considerations are the availability of formal schools,

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complexity of the subject, equipment support
required, and the quality of locally available
instructors. MAC and the SAC respondees
indicate that maximum training is conducted
in the unit. TAC indicates that maximum train-
ing is conducted in schools. For hard skills,
all agree that initial training is conducted
in schools. However, units with unique low
density, high technology equipment (SR 71)
conduct their training in the unit. Units
say that budgetary consideration for required
training is not a factor since ATC funds all
formal initial skill training schools. MAJCOM
and ATC say that the budget is a major consi-
deration in their decision.

B.   What changes and/or recommendations would you
make regarding location (unit vs. school)?

In all MAJCOM, one-half or more of the re-
spondees indicate that they are satisfied with
the current system. MAC and SAC are evenly
split between advocating unit level or formal
school training. TAC and ATC advocate school,
not unit training. SAC and TAC have several
responses which say that initial training
should be conducted in formal schools, but
that refresher/advanced training should be
conducted in the unit. In all MAJCOM, advo-
cates of unit and school training all desire
more MTT/FTD training. One SAC response in-
dicates a desire for more formal schooling,
but at the MAJCOM, not the AF/ATC level.

C.   What is the current policy/position on joint
service training of common tasks at a single site?

None of TAC's answers address this question.
MAC and SAC have many unknown or N/A respon-
ses. A majority of TAC, MAC, and SAC respon-
dees indicate that joint service training is
useful in specific settings; but that it does
not have universal application, because each
of the services have unique requirements. A
large number of MAC respondees recommend
maximum joint service training. TAC and SAC
respondees indicate that joint service train-

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ing is neither needed nor desired. Across the board, support units (Air Police, Supply, air traffic control, etc.) are more in favor of joint service training than are operational units.

D. What is the level (division, squadron, wing, etc.) of your organization and what are the functions your organization has in arriving at joint service training policy and positions? What function does your higher headquarters have?

No response was received from TAC. Levels for other MAJCOM range from squadron to air division. Up to the air division level, SAC and MAC units have no function in the decision process. They provide input to Air Force and MAJCOM, then execute decisions as directed. ATC provides input and people to man ITRO committees, where the joint service decisions which affect ATC are generally coordinated. HQ USAF is the final decision maker on the establishment of joint training for ATC.

E. What changes are planned in the location of training (unit vs. school) in the event of full mobilization?

No response was received from TAC. ATC states that there will be an increase of training in formal schools, vice OJT in units, but that all "nice to have" courses will be eliminated. Most FTD will close and their resources will be absorbed into the operational units. In SAC, the consensus is that training will stop completely; and all effort will be devoted to operations. One response said that "when mobilization comes, it is too late to train". MAC has varied answers. Many say that there will be no change under mobilization. Several say that training will stop. Most, however, say that formal schools will decrease, with most training accomplished by OJT in units. One unit says that it has contingency plans to cancel out all of its formal schools.

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II. Preparation of Trainers and Managers of Trainers

A. Where in the training establishment are individuals formally trained to: (1) conduct training? (2) supervise the conduct of training?

MAC indicates that the majority of non instructor pilot training of trainers is accomplished via OJT or in FTD. IPs are trained at MAC or ATC formal schools. Instructors in FTD are almost universally trained in ATC formal schools. A small number (4 of 107) of respondees indicate that no training of instructors is conducted. Approximately one-half of respondees indicate that supervisors are trained via OJT. The next largest number of respondees indicate that there is no training of supervisors. A smaller number indicate that supervisor training is obtained formally in FTDs and in PME schools. Also, SAC indicates that a majority of its instructor training is received via OJT or in FTDs. SAC answers indicate much less reliance on MAJCOM/ATC formal schools than do MAC answers. Supervisors receive most of their training through OJT and FTD at their home bases. Another significant source is formal schooling through BME. Some responses say that not all trainers receive formal schooling. Germane comment: "Instructors are assigned to the job for over a year before they can get a quota to school."

B. Is this training the same for trainers assigned to training centers, schools, and units?

MAC: Sixty percent of respondees indicate that training is not the same; forty percent say that it is the same. School instructors get professional, formal instruction on how to teach. People assigned to an FTD with an instructional mission also receive this training. Instructor pilots in units normally receive the same instruction as those in schools. Other instructors receive less training than those in schools. SAC: Fifty percent indicate that all trainers receive

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the same preparation/training. Again, all IPs
and FTD instructors receive the same formal
training as their counterparts in schools.
TAC: A slight majority of respondees state
that training is the same in schools and units.
Again, nonflight instructors are deemed to
receive less training than those in schools.
ATC: Approximately one-half of respondees say
yes, and one-half say no. HQ ATC says that
both schools and units have formal schools for
trainers, but due to their uniqueness of pur-
pose, the courses are different. Another
school says that the training is identical in
centers and schools, but that units do not
require instructors to be formally trained.

C.   What are the current trends?

MAC: One-half of respondees indicate N/A or
none. A large majority of those answering
indicate a trend towards less formal schooling,
and more OJT at the unit level. Other trends
mentioned were more formal training for
trainers, a shortage of qualified and ex-
perienced trainers, and an increase in the
use of self-paced courses/CAI/carousel train-
ing. Some respondees indicate that these new
methods are not producing well trained airmen.
SAC: More than one-half of the respondees
indicate N/A or none. Other respondees indi-
cate more OJT/less formal training (almost as
many said the opposite: more formal training
(less OJT)). One response indicates a trend
towards less use of FTDs. TAC: All but one
response is none or N/A. The one positive
response indicates a trend towards more formal
training and less OJT. ATC: The indicated
trends are towards more centralized training,
and towards more self-paced/CAI training.

D.   What procedures are used to evaluate the per-
formance of trainers in training centers, schools, and
units (your organization)?

MAC: In descending order, evaluation proce-
dures mentioned are: subjective evaluation by
work/OJT supervisors/monitors; evaluation of

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trainee performance on written tests and demonstrated job proficiency, standard evaluations, Quality Control, and student critiques. Several units say they have no procedure to evaluate the performance of trainers. SAC: In descending order: subjective evaluation by work supervisors and OJT supervisors, standard evaluations, Quality Control, external inspections (IG, ORI, MEI, etc.); trainee tests and job performance, and student critiques. TAC: In descending order: subjective evaluation by work supervisor or OJT monitor; standard evaluations, Quality Control, and student critiques. ATC: ATC units all agree that two methods are used. Formal evaluations by supervisors; and standard evaluations, Quality Control, checks, etc.

E.   What criteria are used to determine whether an individual has been certified as a qualified trainer in your organization?

MAC: Approximately thirty-five percent of respondees say that subjective evaluation by supervisors, the meeting of locally established standards, etc., are the criteria. Other responses are distributed approximately equally between no criteria established, attainment of a specified AFSC skill level (usually one level higher than the course being taught), attendance at a formal training course (either at an FTD or at an ATC school), and flight examination/certification boards (flight, flight engineer, load master, etc.). SAC: Approximately forty-five percent of respondees indicate that subjective evaluation by supervisors is the criteria. Next most mentioned criteria is attendance at a formal FTD or ATC school, attainment of a specified skill level (in some cases, only equal to the level of the course being taught), and formal board certification. A few responses in SAC indicate that there is no criteria in use. TAC respondees were approximately equally split between subjective evaluation, formal school, and certification boards as the criteria. Very few responses mentioned criteria outlined in AF regs and policy statements, and

no responses say that no criteria is used. ATC: All schools require graduation from a formal instruction school and other local requirements. Examples of local requirements are completion of a written test, a specified number of dry run practice teaching sessions, an OJT period, and continual evaluation of teaching skills.

F.   What system is used to ensure that the trainer is competent within the occupational field and skill for which he is responsible?

MAC, TAC, and SAC primarily use a discriminating selection system, and a minimum skill level (demonstrated competence level) to ensure that a trainer is competent within his occupational field. Depending on area assigned, minimum skill levels of 5 or 7 are required. Other systems to certify competency are flight checks, written examinations, inspections, commanding officer certifications, standardization checks, and formal schools. ATC says that first line supervisor training is prescribed by ATCR 50-28. Courses utilized include Training Instructor Course, Training Supervisor Course, Technical Instructor, and Academic Counseling. First line supervisors must have a minimum of six months experience as an instructor and complete the Technical Instructor Course.

G.   How much training do first line supervisors receive in instructional techniques and procedures?

MAC, TAC, and SAC responses indicate that first line supervisors receive little formal training unless they have been trained as an instructor. In some cases, they do get Field Training Detachment (FTD), OJT and/or Professional Military Education (PME). ATC indicates that higher headquarters supply the framework for instructor training, recognition and supervision in ATCR 50-28. In addition, they outline policy and basic requirements for developing and preparing trainers and managers.

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H.   What roles do higher headquarters play regarding the preparation of trainers and managers of trainers?

> MAC, TAC, SAC, and ATC respondents indicate that higher headquarters establish guidance which aids in the preparation of trainers and managers. Comments were received indicating support in forming policy, establishing basic requirements, course content, selection processes, quotas, evaluation criteria, supporting regulations, and hosting conferences.

I.   What changes are planned in trainer and training manager preparation in the event of full mobilization?

> This question did not appear in the questionnaire in many cases because of an administrative error.

J.   What changes and recommendations would you make regarding the preparation of trainers and training managers?

> Many MAC, TAC, and SAC responses indicate that all trainers and managers should be formally trained in school. Other suggestions were to provide more stability for trainers, select trainers and managers with field experience, make selected contract courses more easily available, increase the standards for instructor pilots, increase in-flight training hours for instructor pilots, and increase standardization. ATC schools were satisfied with their preparation of trainers and training managers and recommended no changes at this time.

K.   What experience, if any, has your organization had with contract training (industry, universities, private contractors)? Give details, results and reactions.

> MAC, TAC, and SAC respondents indicated significantly more experience with contract training than other services did. Their experiences were rated as excellent, except for a few cases where service was not that which was

expected. ATC schools report experience with contractors in the areas of organizational maintenance, training operator and/or depot level maintenance training, cryptographic equipment repair, counseling techniques used in drug and alcohol abuse control, security police equipment training, and emergency vehicle driving techniques. This training is normally of limited scope and the quality of instruction varies from contractor to contractor. Contractors with an active Customer Service Department and customer courses were reported as having higher quality. Small corporations generally charged less than larger corporations. Contractors which used a design/production engineer as an instructor were generally marginal and were not well prepared. Reactions were positive, but in most cases, respondents favored short-term contracts because of the expense. Most respondents believe that the Air Force is able to significantly improve on contract courses and conduct them at a considerably reduced cost on a continuing basis.

L.   What R&D interface has there been on the topic of trainer preparation?

TAC indicated R&D interface with Vought Corporation of Dallas for simulator training, and Honeywell in Minneapolis for trainer operation. ATC schools indicated that the Air Force Human Resources Laboratory oversees this R&D effort. At the Technical Training Center, two new instructional systems have been tested, the Advanced Instructional System (AIS) and Computer Assisted Instruction (CAI). The programs are not fully under ATC operation, and interface with R&D continues.

M.   What effect does personnel turbulence have on trainers and supervisors of trainers? Describe the extent of personnel turbulence in your organization.

Many MAC, TAC, and SAC respondents indicate that turbulence is a significant problem. Some indicate that it is not a problem at all.

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Very few are in the middle. The sense of the answers was that when the problem is apparent it drives a number of things which are difficult to deal with and tend to have a cumulative effect. For example, a high turnover rate always means a heavy instructor upgrade training effort. If the instructor program is in-house, it means trainers are training trainers and not training students. When the prospective trainer arrives as the existing trainer departs (with no overlap), a gap exists while the prospective trainer is trained. In both cases, the instructor's workload increases with a resultant reduction in morale, loss of continuity, and sometimes a reduction in student output. When rotation of instructors occurs in large numbers, or on short notice, the problem is aggravated. As conditions deteriorate further, there is a loss of overall experience, the instructor image posed to prospective careerists is degraded, and the attrition rate increases. Training becomes extremely expensive and the overall mission is degraded. ATC schools indicate similar problems, and indicate six months to a year lag times are not uncommon. When the system finally catches up, instructor overages occur. The perception is that the manpower assignment formula is not adequate and needs improvement.

III. Content of Training

A. How does your organization determine training content?

Almost all MAC, SAC, and TAC responses indicated that training content was developed by higher headquarters or that it was developed in-house on the basis of mission requirements. Specialty Training Standard (STS) requirements and/or Job Proficiency Guides (JPG) were frequently mentioned as aiding this determination. Some MAC responses also indicated the use of a closed loop system between higher headquarters and units. Other units mentioned that management or trend analysis, Air Force regulations, and ISD assisted in development of

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training content. ATC schools all indicated
use of the ISD process to determine training
content. Detailed responses from Sheppard and
Lowry TTC indicated careful consideration of
course content from qualitative, quantitative,
and cost aspects.

B.   How much of the training curriculum or sched-
ule is within your control? How much is delegated to
subordinate commands?

Almost all MAC, SAC, and TAC units indicated
that training content was developed by higher
headquarters, while responsibility for sched-
uling and level of proficiency was accom-
plished at a local level. Local units had
the most control over their OJT training cur-
ricula. ATC schools indicated that broad
guidance for the core curriculum is received
from HQ USAF and HQ ATC in the form of regula-
tions, manuals, and pamphlets. Training man-
agers are responsible for developing individ-
ual/system training plans which include
training concepts, proficiency goals, re-
sources, schedules, and summary data. Ap-
proval of job descriptions and Specialty
Training Standards (STS) are accomplished at
HQ USAF, however, curriculum and scheduling re-
mains within the schools' control.

C.   Does your organization utilize:

(1) A Commander's policy document that out-
lines the priorities of training?

(2) An annual training plan?

(3) A master training schedule?

(4) A training syllabus?

(5) A uniform method to evaluate training?

Include examples of the above.

ATC schools either had their own commanders
policy statement or referred to guidance from

HQ USAF. Air Force directives referred to were
AFR 39-1 (Priorities), AFR 36-1 (Airman Clas-
sification Regulation), AFR 36-1 (Officer
Classification Regulation), AFM 50-5 (Formal
School Catalog), ATCM 52-9 (Interservice
Schools), and ATCP 52-1 (Patterns of Technical
Training). ATC schools also indicated they
had a master training plan, a master training
schedule, some form of training syllabus (or
Plan of Instruction), and has a uniform method
to evaluate training. More than fifty percent
of the respondents indicated that they did not
utilize a Commanders' policy statement which
outlined priorities of training. Most deferred
to Air Force regulation. More than sixty per-
cent of MAC and TAC units indicated the use of
an annual training plan. More than fifty per-
cent of MAC, TAC, and SAC units used a master
training schedule, a training syllabus, and a
uniform method to evaluate training. Some
units referred to ISD, standardization evalua-
tions, ORI, FTD, and JPG/STS as evaluation
tools.

    D.   Assuming your organization does the above or
portions of the above, how well do your units follow the
preplanned planning guidance? If not, explain why they
do or cannot follow the guidance.

Approximately eighty percent of MAC, SAC, and
TAC responses indicate that they follow pre-
planned guidance very well except for weather,
maintenance, or unforeseen tasking. Other
commands indicated somewhat lower adherence to
guidance or did not answer the question. ATC
schools indicate guidance is followed excep-
tionally well unless funding constraints, per-
sonnel shortages or delayed equipment delivery
interferes.

    E.   What procedures and steps are followed:

    (1)   To introduce new training content?

    (2)   To delete training content?

MAC, SAC, and TAC indicated the primary pro-
cedure followed to introduce new training was

through a periodic review, in response to a perceived need, or as a result of a directive. Changes were implemented through changes in Course Control Documents and a change in classroom instruction. The ISD process and OJT were referred to frequently. Deletions to training content were made in much the same way. ATC schools introduce training content on the request of using agencies, with the introduction of new weapons systems, and via training conferences, information taken from occupational surveys, and other similar sources. Ideas are developed using the ISD process. Deletions/requirements are coordinated with the user when there are valid indications that course content is no longer needed.

F. What changes and recommendations would you make regarding the content of training?

The majority of MAC, SAC, and TAC units recommended no changes. Many indicated they liked the system as it is. Some indicated that they would like to see more emphasis on ISD, however, people and money to implement the process effectively was not available. Other units indicated they would like more emphasis on realistic training, less emphasis on non-essential training, additional slide/tape equipment, and improvements in standardization (base to base). ATC schools recommended research to more precisely measure student knowledge and proficiency; explore training simulators and computer managed or directed training as training delivery methods; develop more reliable training cost accounting procedures; assess aptitudes for training requiring multiple abilities (mechanical, electronic, etc.); and speed up the training development process through the use of computer text editing. It was also suggested that a study be conducted on the attitude and effectiveness of instructors utilizing various training day lengths and schedules.

IV   Training Methods

A.   What procedures, if any, are used to determine absolute and relative costs of the training methods currently in use?

> More than ninety percent of SAC and TAC responses, and seventy-five percent of MAC responses indicate that absolute and relative costs are not developed at their level. The remainder of the responses indicate quarterly and annual reviews, cost of equipment, TDY costs, ISD, and flight hours as determinants of costs. ATC uses AFR 173-7 and special instructions provided by HQ ATC/ACM to determine costs. With the ISD process, a determination is made as to whether OJT or formal instruction will be used. Formal instruction is then divided into areas: contract or in-house; lock-step, self-paced, or a combination of both. Course costs and cost per student are then calculated.

B.   How are new training methods developed and what steps are followed to implement them?

> More than fifty percent of MAC, SAC, and TAC responses indicate that the question is not applicable to their unit or that the development of training methods is done at higher headquarters. Respondees indicate that the things most often used to develop training methods are Air Force directives, the ISD process, and responses to immediate needs. Also mentioned are tape/slide presentations, OJT, and critique sheets. ATC indicates that they use ISD procedures to develop new training methods. New methods are proposed, tested and implemented if they check out. Various methods are developed by instructors, private organizations, seminars and conferences, universities, and the Faculty Development Division (or its equivalent).

C.   How are trainers trained to use newly developed methods?

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More than thirty percent of MAC, SAC, and
TAC respondees did not reply to this ques-
tion. Of those responding, about half indi-
cate newly developed methods are taught in
formal schools, and half said that they are
taught using OJT. Other methods mentioned
included factory training, ISD, self study
FTDs, informal classes, the incumbent out-
going trainer and Wing Instructional Systems
Managers (WISM). ATC respondees indicate
that trainers are trained as part of the ISD
process by curriculum developers/designers
in an instructor preservice course. In-
service training courses taught by the Fac-
ulty Development Division, and group seminars
are also mentioned.

D. What changes and recommendations would you
offer concerning training methods?

The vast majority of MAC. SAC, and TAC respon-
dees indicate "NONE" or "N/A". A variety of
suggestions are made by a few respondents
which include requests for more audio-visual
equipment, a greater use of formal schools, a
greater emphasis on OJT, expanded use of ISD,
greater professional assistance for in-house
trainers, and greater standardization. In
general, ATC appears happy with the existing
situation, recommends no change, and gives
rationale to support that position. One
school suggests that lock-step training is
the most efficient system when the school has
no control over the pipeline, the number of
trainers, or the dollar resources.

E. Are there any changes contemplated in training
methods in the event of full mobilization?

The vast majority of MAC, SAC, and TAC re-
spondees indicate there will be no change in
training in the event of mobilization. Four
respondents indicate that requirements would
be waived; and three indicate that accelerated
training would occur. ATC indicates that
self-paced and computerized instruction would
probably be switched to group lock-step. The
training pace would be accelerated, and would
be targeted at the 3-level.

V. Training Effectiveness

A. Describe the methods used to measure the effectiveness of training. Cite specific examples. Include reports and data (how it is collected, how often, etc.) measuring effectiveness. Describe how these measures relate to effectiveness.

Many different training effectiveness measurements are listed. MAC and SAC indicate primary measurements such as job performance, supervisor evaluation, and inspections. SAC and TAC indicate emphasis on standardization evaluations, testing, and student critiques. SAC respondents also indicate primary effectiveness measurements of OJT evaluation, ORI and no notice drills. Quality assurance, flight evaluations, Red Flag, Maple Flag, and assistance visits are also listed. ATC indicates that both internal and external systems are used to measure the effectiveness of training; including annual course reviews, student critiques, field evaluations, Training Evaluation Reports (TER), Training Quality Reports (TQR), internal tests, and informal feedback. A TQR is completed by the supervisor when he observes that a graduate of a technical training course does not meet the Specialty Training Standard (STS) or Course Training Standard (CTS). Problems with the TQRs occur because supervisors do not always take time to fill them out properly, or fill them out in order to meet a MAJCOM imposed quota. They apparently are perceived as being of little value and serve as an irritant. Information from field trips is subjected to analysis and changes are made where problems exist. Also, problem areas are identified from questionnaires from curriculum graduates and student critique sheets. Comment: The sense of the answers is that there is an established formal (as well as an informal) feedback system. It has some problems because people do not have confidence in the value of the system, and it takes the evaluators time to make the system work.

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B.   Where is this information sent?

Most MAC, TAC, and SAC respondents indicate
information is sent to higher headquarters
and distributed internally. MAC respondents
indicate specific internal distribution to
both quality control and training divisions.
SAC respondents indicate that results are
distributed laterally outside the parent
command. In ATC, information is distributed
both vertically and horizontally to MAJCOM
and special staff activities. Distribution
of reports appears to be wide, and in some
cases, computer automated.

C.   What feedback is received after it has been
forwarded?

MAC, TAC, and SAC all indicate feedback comes
primarily when discrepancies are discovered.
SAC and TAC also indicate the use of monthly
and quarterly summaries. In ATC, feedback is
received from HQ USAF, major commands, Train-
ing Quality Reports, biennial reviews of Basic
Military Training, and external staff visits.
The Training Evaluation Division reports quar-
terly on the status of follow-up actions to
ATC/TTSE with info copies to the HQ ATC train-
ing monitor.

D.   What is done with it in your organization?

MAC, SAC, and TAC respondents indicate that
they used the information to detect and cor-
rect adverse trends, to correct deficiencies
in training programs, or to modify follow-on
training. Also mentioned are attempts to
measure the effectiveness of OJT and validate
certification programs. In ATC, the Curricu-
lum Division (or its equivalent) uses the re-
sults of the TER to recommend changes to the
curriculum. In many cases, the data is used
for comparison purposes.

E.   What steps are taken to validate the accuracy
of this effectiveness data?

MAC, SAC, and TAC all indicate that the accu-
racy of effectiveness data is validated by

C-80

follow-up evaluations, ongoing review, and various forms of feedback. The sense of the answers is that validation is present, but is not formalized to a great extent. In ATC, validation is accomplished by direct field contact, trend analysis, questionnaires (analysis targeted to obtain a ninety-five percent confidence level), and special evaluations.

G.   To your knowledge, has there been any R&D interface on this topic? If so, what type?

No knowledge of R&D interface is indicated by SAC or TAC. MAC indicates that the Air Force Human Resources Lab (AFHRL) is putting an automatic performance measurement system on the C-5 aircraft, and is also developing courses around new simulator equipment. In ATC, there is an R&D effort being conducted by AFHRL on "Analysis and Modification of the Field Evaluation System for Air Force Technical Training". Comments indicate that the small amount of R&D conducted to date is partly because of little confidence in the usefulness of such efforts. Bad experiences with occupational surveys may have had an adverse effect.

VI.   Situational Factors in Training

A.   What interferes with the planning and conduct of training? Describe how it interferes.

The most mentioned problems include personnel turbulence, and availability of aircraft. Availability of aircraft is attributed to a shortage of parts in many cases and appears to be most prevalent in SAC and TAC. Maintenance personnel shortages are reflected in TAC responses. Mission essential flights appear to detract from MAC's training effort. Other problems mentioned include a shortage of qualified instructors, a shortage of flight hours, flight simulators which are down for excessive periods of time, shortage of training requirements, uneven student loading, frequent changes in training requirements, and inadequate resources. It is noted that

if support billets and the total number of jobs remain the same, less time is used to train because the support work then comes out of hide. ATC cites lack of facilities, and uneven student loading as problems. It is pointed out that the support manpower fluctuates with student flow, but is out of sync with in-house workload because of instructor work-up time. This results in peaks and valleys which are hard to absorb. Manpower to provide follow-on training is computed, but should be implemented earlier to allow for course ISD and setup time.

B.   What percentage of the average unit duty week is spent in mission essential training?
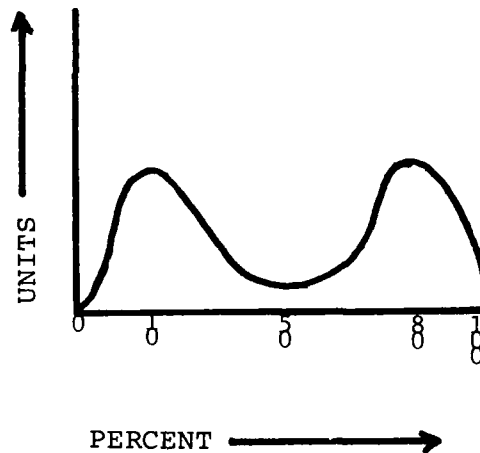
The graph represents the sum of SAC, TAC, and MAC. ATC respondees indicate between eighty and ninety percent mission essential training.

C.   What percentage of the average unit duty week is spent doing non-mission essential action/duties?

The graph on the next page represents the sum of MAC, SAC, and TAC. ATC respondees indicate between ten and twenty percent non-mission essential activities.
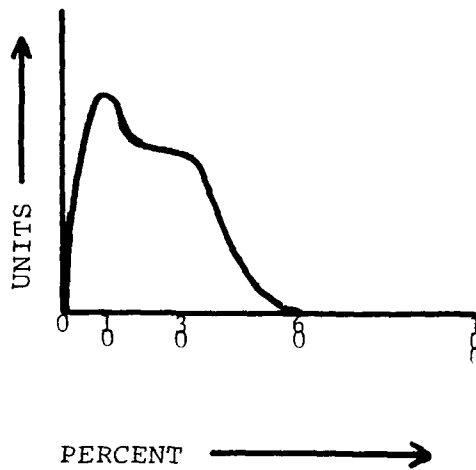
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UNITS

PERCENT ⟶

    D.   What changes and recommendations would you offer to alleviate the problems identified above?

        Recommendations most often made include reducing additional duties and non-mission oriented tasks, attempts to stabilize student loading, development of better methods to evaluate training, increased emphasis on ISD, consolidation of training requirements into a single package, reduction of personnel turbulence, increased use of simulators, and provision for more parts.

    E.   Identify those policies and/or directives which (1) enhance training operations and output, and (2) hinder training operations and output.

        Policies which enhance training are ISD, commander interest, Red Flag, Gold Flag, Maple Flag, consolidated maintenance training, and instructor exchange programs. There is disagreement as to whether centralized or decentralized training is better. ATC respondents seem to lean towards decentralization, but do so cautiously, recommending that time should be allowed for field evaluation. Problems

which hinder training include lack of personnel, lack of trained instructors, frequent changes in requirements, austere resources, "square filling time", lack of lead time for TDY, exporting training to local units, and conflicting guidance. It is noted that because of the decentralization policy, some school units coordinate directly with MAJCOM monitors and using organizations regarding training requirements. This results in long-term resources not being identified. Comment: Many Air Force units responded to this question by listing various numbered directives which enhance or detract from training. Indications are that there is some agreement on directives which were considered good and also some agreement on those considered detractors.

F.   Was programmed mission essential training constrained or curtailed, or your command's ability to accomplish its mission adversely affected by budget consideration? If so, please give examples.

About one-half of the respondees indicate mission essential training is constrained or curtailed because of budget constraints. Many mention short-term measures taken to meet budget cuts, which may or may not have long-term effects. Examples of measures taken are: TDY curtailments, reduction in participation in Red Flag, reduction in training aids, reduction in O&M funds, reduction in spare parts and increased out-of-commission time for trainers. ATC indicates a necessity for an eight-hour platform day for instructors. Budget cuts also account for the following things being partially or not funded: replacement of mechanical typewriters with electric in a typing class, upgrading of courses in the Avionics and Airborne Fire Control System; Metrology, Nuclear Weapons, Munitions staff officer courses, reduction in training aids and reduced funding for shoes and field jackets in the BMTS physical conditioning program. There is also some indication that money to implement the Pipeline Management System may be in question.

C-84

G.   When in FY 1978 and FY 1979 did your command receive its approved training resources (dollars, training ammunition, etc.)? When should you receive it in order to achieve effective decentralization of training?

Commands which receive training resources generally receive them in a timely manner. SAC and MAC units appear to receive their money before TAC and ATC. About one-half of the units at TAC receive their money more than a month into the fiscal year. ATC receives their money two to four months into the fiscal year. Almost all units say that they could plan more effectively if the money was received sooner. Comment: Delays in obtaining firm budgets cause commanders to straight line the previous year's budget. If those figures are high they face significant problems rebudgeting near the middle or end of the year. If those figures are low, they end up with a surplus which is spent quickly in an effort to meet budget closeout dates.

H.   Did your command receive year end monies in FY 1977 and FY 1978? If so, what percentage was used for training or training related expenditures?

The vast majority of units received no year end money. Most of the units which did receive money used nearly one hundred percent of it on training or training related items.

I.   Could you more effectively use year end monies if allocated at the beginning of the fiscal year? Or halfway into the year?

Respondees would like to receive year end money sooner. The vast majority would like it at the beginning of the year. Indications are that units are inclined to buy high priority items first near the beginning of the year. Money obtained near the end of the year is spent quickly with less regard for judicious usage. The quantity of money available at the end of the year appears to vary drastically from year to year.

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J.   How is the information derived from your training effectiveness and efficiency indicators translated into training dollar requirements? How do you formulate your budget requirements?

> Most units did not answer this question. Those who did indicate that effectiveness and efficiency information is translated to dollar requirements using past history and projections. Several units indicate requirements are related to flight hours. ATC bases estimates on projected student population, previous costs, and price increases.

K.   What method is used in deciding when combat effectiveness must override dollar efficiency? For example, what rationale is used to determine the need for live missiles versus electronic simulators which will ensure fully trained gunners?

> Most respondees did not answer this question. Those who did indicate that decisions are based on the minimum requirements to accomplish the task (Subjective on-scene estimates), mission requirements, political tone and threat of war. If realistic and effective training could be accomplished through simulation, the dollars could be saved; if not, the dollars had to be spent to attain a combat effective level.

L.   What would you suggest to improve any aspect of the training dollar acquisition or allocation?

> Field units would like to see resources balanced to training requirements, quality training, and reduced turbulence. ATC would like earlier confirmation of their budget, to be advised of year end money resources sooner and to be advised of minor construction funds which cannot compete with base priorities (but which impact on training).

M.   What are the problems with training and training management not addressed in the above areas and what can be done to correct them?

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Most problems addressed in this block are approached by previous answers. Additional suggestions include a periodic review of training requirements, authorization of wing level training officers and to increase ISD. ATC indicates problems with drastic fluctuations in the training personnel requirements. Self-paced courses which require more instructors necessitate planning ahead to ensure stabilization of civilian faculty and the decreasing overall quality of the recruit. Critical to every area is the need for accurate, consistent data.

APPENDIX D

INFORMATION REQUEST RESPONDEES

U.S. ARMY

DA Staff	Washington, DC
Army Communications Command	Ft. Huachuca, AR
Health Services Command	Ft. Sam Houston, TX
DARCOM	Alexandria, VA
TRADOC	Ft. Monroe, VA
Administration Center	Ft. Ben Harrison, IN
Air Defense Center & School	Ft. Bliss, TX
Armor Center & School	Ft. Knox, KY
Army Training Board	Ft. Eustis, VA
Army Training Center	Ft. Dix, NJ
Army Training Center	Ft. Jackson, SC
Combat Dev Experimentation Cmd	Ft. Ord, CA
Combined Arms Center	Ft. Leavenworth, KY
Combined Arms Test Activity	Ft. Hood, TX
Engineer Center & School	Ft. Belvoir, VA
Field Artillery Ctr & School	Ft. Sill, OK
Infantry Center & School	Ft. Benning, GA
Logistics Center	Ft. Lee, VA
Military Police Ctr & School	Ft. McClellan, AL
Ord and Chem Center & School	APG, MD
Quartermaster Center & School	Ft. Lee, VA
Sergeant Major Academy	Ft. Bliss, TX
Signal Center & School	Ft. Gordon, GA
Transportation Ctr & School	Ft. Eustis, VA
FORSCOM	Ft. McPherson, GA
XVIII Airborne Corps	Ft. Bragg, NC
1st Cavalry Division	Ft. Hood, TX
9th Infantry Division	Ft. Lewis, WA
101st Airborne Division	Ft. Campbell, KY
172nd Infantry Brigade	Ft. Richardson, AL
194th Armored Brigade	Ft. Knox, KY
197th Infantry Brigade	Ft. Benning, GA
36th Engineer Group	Ft. Benning, GA
34th Medical Battalion	Ft. Benning, GA
Europe	
V Corps	
V Corps Artillery	
VII Corps	
VII Corps Artillery	
1st Armored Division	

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                    1st Infantry Division (Fwd)
                    3rd Infantry Division
                    8th Infantry Division
                    Berlin Brigade
                    11th Armored Cavalry Regiment
                    11th Aviation Group
                    7th Engineer Brigade
                    18th Engineer Brigade
                    130th Engineer Brigade
                    56th Field Artillery Brigade
                    2nd Support Command
                    3rd Support Command
                    21st Support Command
                    Southern European Task Force
            UH-60A Project (Blackhawk)
            ITV Project
            IFV/CFV Project
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U.S. NAVY

CNO	Washington, DC
CINCUSNAVEUR	London, UK
Naval Material Command	Washington, DC
NAVAIRSYSCOM	
NAVELEXSYSCOM	
NAVFACENGCOM	
NAVSEASYSCOM	
CNET	Pensacola, FL
CNTT	Millington, TN
Atlantic Fleet	Norfolk, VA
Second Fleet	Norfolk, VA
COMNAVAIRLANT	Norfolk, VA
Carrier Group 4	Norfolk, VA
Carrier Group 8	Norfolk, VA
Light Attack Wing 1	NAS Cecil, FL
ATKRON 45	NAS Cecil, FL
ATKRON 174	NAS Cecil, FL
Medium Attack Wing 1	NAS Oceana, VA
Fighter Wing 1	NAS Oceana, VA
Recce Attack Wing 1	NAS Key West, FL
Air Anti Sub Wing 1	NAS Cecil, FL
Helo Anti Sub Wing 1	NAS Cecil, FL
Carrier Abn E.W. Wing 12	NAS Norfolk, VA
Patrol Squadron 30	NAS Jacksonville, FL
Fleet Aviation Special Operations Training Group LANT	NAS Norfolk, VA

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              Naval Air Station           Pensacola, FL
          COMNAVSURFLANT                   Norfolk, VA
            Cruiser Destroyer Group 8      Norfolk, VA
            Cruiser Destroyer Group 12     Mayport, VA
            Service Group 2                Norfolk, VA
          COMSUBLANT                       Norfolk, VA
            Submarine Group 2              New London, CT
            Submarine Group 6              Charleston, SC
            Submarine Group 8              Naples, Italy
        COMTRALANT                         Norfolk, VA
    Pacific Fleet                          Pearl Harbor, HI
        Third Fleet                        Pearl Harbor, HI
          COMNAVAIRPAC (non-respondent)    San Diego, CA
            Carrier Group 3                Alameda, CA
            Carrier Group 7                Alameda, CA
            Light Attack Wing Pacific      NAS LeMoore, CA
            Med Attack/Tac E.W. Wing       NAS Whidby Is., WA
            Fighter Airborne E.W. Wing     NAS Miramar, CA
            Naval Air Station              North Island, CA
            Naval Air Station              Moffett Field, CA
          COMNAVSURFPAC                     San Diego, CA
            Cruiser Destroyer Group 1      San Diego, CA
            Amphibious Group 1             Okinawa
            Service Group 1                Okinawa
            Amphibious Group East Pac      Coronado, CA
          COMSUBPAC                        Pearl Harbor, HI
            Submarine Group 5              San Diego, CA
        COMTRAPAC                          San Diego, CA
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<u>U.S. MARINE CORPS</u>

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HQMC                                   Washington, DC
MCB Camp Pendleton                     Camp Pendleton, CA
MCB Camp LeJeune                       Camp LeJeune, NC
MCRD San Diego                         San Diego, CA
MCRD Parris Island                     Parris Island, SC
MCDEC                                  Quantico, VA
MCAGCC                                 29 Palms, CA
FMF PAC                                Camp H.M. Smith, HI
    Landing Force Trng Cmd Pacific     Coronado, CA
    1st Marine Brigade                 MCAS Kaneohe, HI
    1st Marine Division                Camp Pendleton, CA
      HQ Bn
      HQ & Svc Bn
      1st Marine Regiment
        2/1 Marines
        3/1 Marines
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5th Marine Regiment
  1/5 Marines
  2/5 Marines
  3/5 Marines
7th Marine Regiment
11th Marine Regiment
  1/5 Marines
  2/5 Marines
  3/5 Marines
1st Combat Engineer Bn
1st Recon Bn
1st Tank Bn
3rd Assault Amphibious Bn
1st FSSG
1st MAW   Okinawa
  MAG 12 (non-respondent)
    H & MS 12
    MABS 12
    VMA 224
    VMA 311
    MWWU 1
    MWHS 1
  MAG 15
    H & MS 15
    MABS 15
    VMFA 122
    VMFA 232
  MWSG 17
    H & GMS 17
    WES 17
    WTS 17
  MCG 18
    H & HMS 18
    MASS 2
    MACS 4
    MACG 18
    MWCS 18
    MATCS 18
  MAG 36 (non-respondent)
    H & HS 36
    MABS 36
    HML 36
    HMM 36
    MARTS 152
    HMH 426

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3rd Marine Division
  HQ Bn
  4th Marine Regiment
    2/4 Marines
    3/4 Marines
  9th Marine Regiment
    3/9 Marines
  12th Marine Regiment
    2/12 Marines
    3/12 Marines
  1st Tracked Vehicle Bn
  3rd Combat Engineer Bn
  3rd Recon Bn
  7th Communications Bn
3rd FSSG
  H & HB
  3rd Land Supply Bn
  3rd Maintenance Bn
  3rd Medical Bn
  3rd Supply Bn
  9th Engineer Bn
  9th Motor Transport Bn
3rd MAW                              El Torro, CA
  MAG 11
    H & MS 11
      MABS 11
      VMFA 314
      VMFA 323
  MAG 13
    H & MS 13
      MABS 13
      MARTS 352
  MAG 16
    H & MS 16
      MABS 16
      HMM 163
      HMM 164
      HMM 363
  MWSG 27
  MWSG 37
    WES 37
    WTS 37
  MCCRTG
    MWHS 3
    VMAT 101
    VMA 102
    VMA 513
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            MACG 38
               H & HS 38
               MASS 3
               MACS 7
               MATCS 38
               MWCS 38
            MAG 39
               H & HMS 39
               HMH 169
               HMA 369
               HML 267
FMFLANT                                 Norfolk, VA
   2nd Marine Division                  Camp LeJeune, NC
      HQ Bn
      2nd Marine Regiment
      6th Marine Regiment (non respondent)
         2/6 Marines
         3/6 Marines
      8th Marine Regiment
      10th Marine Regiment
         1/10 Marines
         2/10 Marines
         3/10 Marines
         5/10 Marines
         9/10 Marines
      2nd Combat Engineer Bn
      2nd Recon Bn
      2nd Tank Bn
      2nd Assault Amphibian Bn
      2nd Division Support Group
   2nd FSSG
   2 MAW (non respondent)
      MACW 2
      MACW 3
      MAG 14
      MAG 26
      MACG 28
      MAG 29
      MAG 31
      MAG 32
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U.S. AIR FORCE

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HQ ATC                                  Randolph AFB, TX
   Lackland Military Trng Ctr           Lackland, AFB, TX
   Sheppard Technical Trng Ctr          Sheppard AFB, TX
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Lowry Technical Trng Ctr	Lowry AFB, CO
Keesler Technical Trng Ctr	Keesler AFB, MS
HQ TAC	Langley AFB, VA
1 SOW	Hurlburt Field, FL
1 TFW	Langley AFB, VA
23 TFW	England AFB, LA
58 TTW	Luke AFB, AZ
474 TFW	Nellis AFB, NV
479 TFW	Holloman AFB, NM
552 AWCW	Tinker AFB, OK
HQ SAC	Offutt AFB, NE
93 BW	Castle AFB, CA
351 SMW	Whiteman AFB, MO
509 BW	Pease AFB, NH
381 SMW	McConnell AFB, KS
55 SRW	Offutt AFB, NE
7 BW	Carswell AFB, TX
44 SMW	Ellsworth AFB, SD
341 SMW	Malmstrom AFB, MT
97 BW	Blytheville AFB, AR
96 BW	Dyess AFB, TX
90 SMW	Warren AFB, WY
380 BW	Plattsburgh AFB, NY
4315 CCTS	Carswell AFB, TX
HQ MAC	Scott AFB, IL
436 MAW	Dover AFB, DE
60 MAW	Travis AFB, CA
22 MAS	
7 MAS	
413 MAW	
437 MAW	Altus AFB, OK
61 MASW	Charleston AFB, SC
63 MAG	Hickam AFB, HI
76 MAW	Norton AFB, CA
1185 CEG	Andrews AFB, MD
89 MAG	
1 MAS	
1100 ABGP	
62 MAW	Bolling AFB, DC
41 RWRW	McChord AFB, WA
39 ARRW	McClellan AFB, CA
1550 ATTW	Eglin AFB, IL
AWS	Kirtland AFB, NM
375 AAW	Scott AFB, IL
438 MAW	Scott AFB, IL
435 TAG	McGuire AFB, NJ
616 MAG	Rhein Main AFB, GE
	Elmendorf AFB, AK

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      374 TAW                           Clark AFB, PI
      314 TAW                           Little Rock AFB, AR
      317 TAW                           Pope AFB, NC
        3 MAPS                          Pope AFB, NC
      463 TAW                           Dyess AFB, TX
HQ ADCOM                                Peterson AFB, CO
       26 AD                            Luke AFB, AZ
       Air Defense Weapons Center       Tyndall AFB, FL
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APPENDIX F

UNITS/ORGANIZATIONS VISITED

DEPARTMENT OF DEFENSE

Washington, DC	DOD Offices
Ft. Belvoir, VA	Defense Mapping School
	Defense Systems Mgmt. College
Ft. Sheridan, IL	MEPCOM
Atlanta, GA	AFEES
Baltimore, MD	AFEES
Columbia, SC	AFEES
San Antonio, TX	AFEES

U.S. ARMY

Washington, DC	Dept. of the Army Offices	
	ARI	
	CAA	
	DARCOM	
	MILPERCEN	
Ft. Monroe, VA	HQ, TRADOC	
Ft. Belvoir, VA	U.S. Army Engr. School	(TRADOC)
Ft. Benning, GA	U.S. Army Inf. School	(TRADOC)
	ATC	(TRADOC)
Ft. Dix, NJ	ATC	(TRADOC)
Ft. Eustis, VA	Army Training Board	(TRADOC)
Ft. Jackson, SC	ATC	(TRADOC)
Ft. Leavenworth, KS	CACDA	(TRADOC)
	CATRDA	(TRADOC)
Ft. Leonard Wood, MO	ATC	(TRADOC)
Ft. McPherson, GA	HQ FORSCOM	
Ft. Bragg, NC	HQ XVIII Abn. Corps	(FORSCOM)
	82nd Abn. Div.	(FORSCOM)
Ft. Hood, Tx	III Corps	(FORSCOM)
	2nd Arm. Div.	(FORSCOM)
	1st Cav. Div.	(FORSCOM)
Ft. Ord, CA	7th Inf. Div.	(FORSCOM)
Ft. Sheridan, IL	HQ USAREC	
Ft. Stewart, GA	24th Inf. Div.	(FORSCOM)
Ft. Irwin, CA	N.T.C.	
	5th Inf. Div.	(FORSCOM)
Europe	HQ USAREUR	
	HQ VII Corps	

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Europe (Continued)      1st Arm. Div.
                        3rd Inf. Div.
                        8th Inf. Div.
                        7th Army Combined Arms
                            Training Center
Schofield Bks, HI       25th Inf. Div.
Korea                   HQ U.N. Command, Korea
                        HQ 8th U.S. Army
                        2nd Inf. Div.


                        U.S. NAVY

Washington, DC          Dept. of the Navy Offices
                        ONR
                        NOTAP
                        NPRDC
Norfolk, VA             COMTRALANT
                        COMNAVAIRLANT
                        COMNAVSURFLANT
                        COMSUBLANT
                        CINCLANTFLT
Pensacola, FL           CNET
Great Lakes, IL         NTC
Orlando, FL             NTC
                        TAEG
Millington, TN          CNTT
                        NATTC
                        NAMTRAGRU
New London, CT          Navy Submarine School
San Diego, CA           NTC
                        COMNAVAIRPAC
                        COMNAVSURFPAC
                        COMSUBPAC
                        COMTRAPAC
                        FLTASWTRACENPAC
                        FLTCOMBATTRACENPAC
                        NPRDC
Camp H. M. Smith, HI    CINCPAC
                        CINCPACFLT
Ships-in-Port           USS Sea Devil (SSN-664)
                        USS Fulton (AS-11)
                        USS John Hancock (DD-901)
                        USS Texas (CGN-39)
Ships-at-Sea            USS Billfish (SSN-676)
                        USS Garcia (FF-1040)
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U.S. MARINE CORPS

Washington, DC	HQMC
Quantico, VA	MCDEC
	TBS
	AWS
	OCS
	C&SC
Camp LeJeune, NC	2nd Marine Div.
	2nd Marine Air Wing
	Marine Corps Svc. Sup. School
Parris Island, SC	MCRD
San Diego, CA	MCRD
Camp Pendleton, CA	I MAF
	1st Marine Div.
	3rd Marine Air Wing
	Marine Corps Base
	Inf. Training School
	Track Vehicle School
	Field Medical School
29 Palms, CA	MCAGCC
	MCCES
	2nd Marine Div. Units
Camp H. M. Smith, HI	FMF PAC
	1st Marine Brigade
Okinawa	III MAF
	3rd Marine Div.
	1st Marine Air Wing

U.S. AIR FORCE

Washington, DC	Dept. of the Air Force Offices	
Randolph AFB, TX	HQ ATC	
	AFMPC	
Brooks AFB, TX	AFHRL	
Lackland AFB, TX	AFMTC	
Lowry AFB, CO	Tech. Trng. Cntr.	(ATC)
	AFHRL	
Sheppard AFB, TX	Tech. Trng. Cntr.	(ATC)
Scott AFB, IL	HQ MAC	
Altus AFB, OK	443 MAW	(MAC)
Charleston AFB, SC	437 MAW	(MAC)
McGuire AFB, NJ	HQ 21 AF	(MAC)
Offutt AFB, NE	HQ SAC	
Carswell AFB, TX	7 Bomb Wing	(SAC)
	4235 STS	(SAC)
Langley AFB, VA	HQ TAC	
Eglin AFB, FL	4441 TFG (Blue Flag)	(TAC)

Nellis AFB, NV	TAC Fighter Weapons Center
	(Red Flag) (TAC)
Europe	HQ USAFE
	HQ 17 AF
	Det. 8, 601 TCW (AGOS)
	435 TAW (MAC)
Hickam AFB, HI	HQ PACAF
Korea	314 Air Div.
	51 Composite Wing

MISCELLANEOUS

Washington, DC	GAO
	DAS
	HumRRO
	J-3 JCS
	Defense Reorganization Study Group
	U.S.M.C. Manpower Acquisition &
	Training Process Committee
Stuttgart, GE	HQ EUCOM

APPENDIX G

GLOSSARY

AAW	Aeromedical Airlift Wing (USAF)
ABGP	Air Base Group (USAF)
ACM	Economic Analysis Directorate/ ATC (USAF)
AD	Air Division (USAF)
ADCOM	Air Defense Command (USAF)
ADWC	Air Defense Weapons Center (USAF)
AFEES	Armed Forces Entrance and Examining Station (All)
AFHRL	Air Force Human Relations Laboratory (USAF)
AF/MP	Deputy Chief of Staff, Manpower and Personnel (USAF)
AFMPC	Air Force Manpower and Personnel Center (USAF)
AFMTC	Air Force Military Training Center (USAF)
AFSC	Air Force Specialty Code (USAF)
AFSC	Armed Forces Staff College (All)
AF/XO	Deputy Chief of Staff, Operations and Plans (USAF)
AGOS	Air Ground Operations School (USAF)
AIS	Advanced Instructional System (USAF)

G-1

AIT	Advanced Individual Training (USA)
APG	Aberdeen Proving Ground Maryland (USA)
ARI	Army Research Institute (USA)
ARPRINT	Army Program for Individual Training (USA)
ARRW	Aerospace Rescue and Recovery Wing (USAF)
ARTEP	Army Training and Evaluation Program (USA)
ASVAB	Armed Services Vocational Aptitude Battery (All)
ATC	Air Training Command (USAF)
ATC	Army Training Center (USA)
ATKRON	Attack Squadron (USN)
ATRRS	Army Training Requirements and Resources System (USA)
ATTW	Aircrew Training and Test Wing (USAF)
AVF	All Volunteer Force (All)
AWCW	Airborne Warning and Control Wing (USAF)
AWS	Amphibious Warfare School (USMC)
BCT	Basic Combat Training (USA, USMC)
BE&E	Basic Electricity and Electronics (USN)
BFTD	Battalion Field Training Day (USA)

BME	Basic Military Education (USAF)
BMT	Basic Military Training (USAF)
BSEP	Basic Skills Entry Program (USA)
BTMS	Battalion Training Management System (USA)
BUPERS	Bureau of Personnel (USN)
BW	Bomb Wing (USAF)
CAA	Concepts Analysis Agency (USA)
CACDA	Combined Arms Combat Development Agency (USA)
CAI	Computer Assisted Instruction (All)
CAT	Computer Adaptive Testing (All)
CATRDA	Combined Arms Training Development Activity (USA)
CCM	Course Costing Model (USA)
CCTS	Combat Crew Training Squadron (USAF)
CDC	Career Development Course (USAF)
CEG	Civil Engineering Group (USAF)
CETA	Civilian Electronics Technician Afloat (USN)
CETRM	Combat Effective Training Management (All)
CFV	Cavalry Fighting Vehicle (USA)
C&GSC	Command and General Staff College (USA)
CHNAVMAT	Chief of Naval Materiel (USN)

CINCLANTFLT	Commander in Chief, Atlantic Fleet (USN)
CINCPAC	Commander in Chief, Pacific (All)
CINCPACFLT	Commander in Chief, Pacific Fleet (USN)
CINCUSNAVEUR	Commander in Chief, U.S. Naval Forces Europe (USN)
CNET	Chief of Naval Education and Training (USN)
CNO	Chief of Naval Operations (USN)
CNSL	Commander, Naval Surface Fleet, Atlantic (USN)
CNTECHTRA/CNTT	Chief of Naval Technical Training (USN)
COEA	Cost and Operational Effectiveness Analysis (USA)
COMNAVAIRLANT	Commander, Naval Air Forces, Atlantic Fleet (USN)
COMNAVAIRPAC	Commander, Naval Air Forces, Pacific Fleet (USN)
COMNAVSURFLANT	Commander, Naval Surface Forces, Atlantic Fleet (USN)
COMNAVSURFPAC	Commander, Naval Surface Forces, Pacific Fleet (USN)
COMPATWINGSPAC	Commander, Patrol Wings, Pacific Fleet (USN)
COMPATWINGSLANT	Commander, Patrol Wings, Atlantic Fleet (USN)
COMSUBLANT	Commander, Submarine Forces, Atlantic Fleet (USN)

COMSUBPAC	Commander, Submarine Forces, Pacific Fleet (USN)
COMTRALANT	Commander, Training Command, Atlantic Fleet (USN)
COMTRAPAC	Commander, Training Command, Pacific Fleet (USN)
CONUS	Continental United States (USA)
C&SC	Command and Staff College (USMC)
CTEA	Cost and Training Effectiveness Analysis (USA)
CTS	Course Training Standard (USAF)
DALFA	Directorate of Air/Land Force Application (USA)
DARCOM	Development and Readiness Command (USA)
DAS	*Defense Audit System* (All)
DASD/MPP	Deputy Assistant Secretary of Defense for Military Personnel Policy (All)
DASD/TRNG	Deputy Assistant Secretary of Defense for Training (All)
DCNO	Deputy Chief of Naval Operations (USN)
DCSOPS	Deputy Chief of Staff, Operations (USA)
DCSPER	Deputy Chief of Staff, Personnel (USA)
DOD	Department of Defense (All)
DPS	Decision Package Set (All)

DUSDRE	Deputy Under Secretary of Defense for Research and Advanced Technology (All)
EDRE	Emergency Deployment Readiness Exercise (USA)
EDVR	Enlisted Data Verification Report (USN)
EPTS	Existed Prior to Service (All)
EUSA	Eighth U.S. Army (USA)
FAP	Fleet Augmentation Program (USMC)
FBM	Fleet Ballistic Missile (USN)
FLEASWTRACENPAC	Fleet Anti-Submarine Training Center, Pacific (USN)
FLTCOMBATTRACENPAC	Fleet Combat Training Center, Pacific (USN)
FMF	Fleet Marine Force (USMC)
FMFLANT	Fleet Marine Force, Atlantic (USMC)
FMFPAC	Fleet Marine Force, Pacific (USMC)
FORSCOM	Forces Command (USA)
FORSTAT	Forces Status and Identity Report (USA)
FRAMP	Fleet Replacement Aviation Maintenance Program (USN)
FSSG	Force Service Support Group (USMC)
FST	Field Skill Training (USMC)
FTC	Fleet Training Center (USN)

FTD	Field Training Detachment (USAF)
FY	Fiscal Year (All)
GAO	Government Accounting Office (All)
GCC	Graduated Combat Capability (USAF)
GDP	General Defense Plan (USA)
GED	General Education Development (All)
H&GMS	Headquarters and Ground Maintenance Squadron (USMC)
H&HB	Headquarters and Headquarters Battery (USA, USMC)
H&HS	Headquarters and Headquarters Squadron (USMC)
HMH	Marine Heavy Helicopter Squadron (USMC)
HML	Marine Light Helicopter Squadron (USMC)
HMM	Marine Medium Helicopter Squadron (USMC)
HQMC	Headquarters, Marine Corps (USMC)
HSC	Health Services Command (USA)
HumRRO	Human Resources Research Organization (USA)
IFV	Infantry Fighting Vehicle (USA)
IG	Inspector General (All)
INSCOM	Intelligence Command (USA)

IP	Instructor Pilot (All)
IPDC	Instructional Program Development Center (USN)
ISD	Instructional Systems Development (All)
ITRO	Interservice Training Review Organization (All)
ITV	Improved Tow Vehicle (USA)
IUT	Instructor Under Training (USN)
JCS	Joint Chiefs of Staff (All)
JOBS	Jobs Oriented Basic Skills (USN)
JPG	Job Proficiency Guides (USAF)
LAW	Light Anti-Tank Weapon (USA, USMC)
LMET	Leadership, Management, Education and Training (USN)
LMT	Leadership, Management Training (USN)
LTA	Local Training Area (USA)
MABS	Marine Air Base Squadron (USMC)
MAC	Military Airlift Command (USAF)
MACG	Marine Air Control Group (USMC)
MACOM	Major Command (USA)
MACS	Marine Air Control Squadron (USMC)
MACW	Marine Air Control Wing (USMC)
MAF	Marine Amphibious Force (MAF)

MAG	Marine Air Group (USMC)
MAG	Military Airlift Group (USAF)
MAJCOM	Major Air Command (USAF)
MAPS	Military Aerial Port Squadron (USAF)
MARTS	Marine Air Reserve Training Squadron (USMC)
MASHS	Marine Aviation Support Headquarters Squadron (USMC)
MASS	Marine Air Support Squadron (USMC)
MASW	Military Air Support Wing (USAF)
MATCS	Marine Air Traffic Control Squadron (USMC)
MATSS	Marine Air Training Support Squadron (USMC)
MAW	Military Airlift Wing (USAF)
MAW	Marine Air Wing (USMC)
MCAGCC	Marine Corps Air Ground Combat Center (USMC)
MCB	Marine Corps Base (USMC)
MCCES	Marine Corps Communications and Electronics School (USMC)
MCCRES	Marine Corps Combat Readiness Evaluation System (USMC)
MCCRTG	Marine Corps Combat Readiness Training Group (USMC)
MCDEC	Marine Corps Development and Education Command (USMC)

MCG	Marine Control Group (USMC)
MCKEES	Marine Corps Key Experiences Evaluation System (USMC)
MEPCOM	Military Enlistment and Processing Command (All)
MCO	Marine Corps Order (USMC)
MCRD	Marine Corps Recruit Depot (USMC)
MEI	Management Effectiveness Inspection (USAF)
MFAS	Marine Fighter Attack Squadron (USMC)
MILES	Multiple Integrated Laser Evaluation System (USA)
MILPERCEN	Military Personnel Center (USA)
MIS	Management Information System (All)
MMTR	Military Manpower Training Report (All)
MOS	Military Occupational Specialty (USA, USMC)
MPT	Manpower, Personnel and Training (USN)
MRA&L	Manpower, Reserve Affairs and Logistics (All)
MTA	Major Training Area (USA)
MWCS	Marine Wing Control Squadron (USMC)
MWHS	Marine Wing Headquarters Squadron (USMC)
MWSG	Marine Wing Support Group (USMC)

MWWU	Marine Wing Weapons Unit (USMC)
NAMP	Naval Aviation Maintenance Program (USN)
NAMTRADET	Naval Aviation Maintenance Training Detachment (USN)
NAMTRAGRU	Naval Aviation Maintenance Training Group (USN)
NAS	Naval Air Station (USN)
NATOPS	Naval Aviation Training and Operating Procedure Standardization (USN)
NATTC	Naval Air Technical Training Center (USN)
NAVAIRSYSCOM	Naval Air Systems Command (USN)
NAVEDTRA	Naval Education and Training (USN)
NAVELEXSYSCOM	Naval Electronics Systems Command (USN)
NAVFACENGCOM	Naval Facilities Engineering Command (USN)
NAVSEASYSCOM	Naval Sea Systems Command (USN)
NAVSUPSYSCOM	Naval Support Systems Command (USN)
NCO	Noncommissioned Officer (All)
NCOES	Noncommissioned Officer Educations System (USA)
NEC	Naval Enlisted Classification (Job Classification) (USN)
NET	New Equipment Training (All)
NOTAP	Naval Occupational Training and Analysis Program (USN)

NPRDC	Naval Personnel Research and Development Center (USN)
NTC	National Training Center (USA)
NTC	Naval Training Center (USN)
NTPI	Naval Technical Proficiency Inspection (USN)
NTTC	Naval Technical Training Center (USN)
NWC	National War College (All)
OCS	Officer Candidate School (USA, USN, USMC)
OJT	On-the-Job Training (All)
O&M	Operations and Maintenance (All)
OMB	Office of Management and Budget (All)
ONR	Office of Naval Research (USN)
OPNAV	Chief of Naval Operations (USN)
OP-01	Deputy Chief of Naval Operations for Manpower, Personnel, Training (USN)
ORE/I	Operational Readiness Evaluation/Inspection (All)
ORTP	Operational Readiness Test Program (SACEUR) (USAF, USA)
OSD	Office of the Secretary of Defense (All)
OSUT	One Station Unit Training (USA)
PACAF	Pacific Air Forces (USAF)
PBD	Program Budget Decision (All)

PCS	Permanent Change of Station (All)
PDM	Program Decision Memorandum (All)
PIAM	Personnel Inventory and Analysis Model (USA)
PMS	Pipeline Management System (USAF, USA)
POI	Program of Instruction (All)
PME	Professional Military Education (USAF)
PPBS	Planning, Programming and Budgeting System (All)
PQS	Personnel Qualification Standards (USN)
P1	Program 1 (Strategic Forces) (All)
P2	Program 2 (General Purpose Forces) (All)
P4	Program 4 (Sealift and Airlift Forces) (All)
P8	Program 8 (Medical, Training, and Other) (All)
QDR	Quality Deficiency Report (USN)
RAG	Replacement Air Group (USN)
R&D	Research and Development (All)
RWRW	Rescue and Weather Reconnaissance Wing (USAF)
SAC	Strategic Air Command (USAF)
SACEUR	Supreme Allied Commander, Europe (All)

SMW	Strategic Missile Wing (USAF)
SOW	Special Operations Wing (USAF)
SQT	Skills Qualification Test (USA)
SRW	Strategic Reconnaissance Wing (USAF)
SSC	Service School Command (USN)
SST	Specialized Skill Training (All)
STS	Specialty Training Standard (USAF)
STS	Strategic Training Squadron (USAF)
STAPLAN	Status Time Attrition Planning (USN)
S&T	Science and Technology (All)
SUBSCOL	Submarine School (USN)
TAC	Tactical Air Command (USAF)
TAD	Temporary Additional Duty (USN)
TAEG	Training Analysis and Evaluation Group (USN)
TAG	Tactical Air Group (USAF)
TAG	Technical Advisory Group (All)
TANO	Technical Associates, New Orleans (USN)
TAW	Tactical Airlift Wing (USAF)
TBS	The Basic School (USMC)
TC	Training Circular (USA)
TCM	Training Costs Model (USN)

TCW	Tactical Control Wing (USAF)
TDY	Temporary Duty (USA, USAF)
T&E	Training and Education (All)
TER	Training Evaluation Reports (USAF)
TFW	Tactical Fighter Wing (USAF)
TQR	Training Quality Reports (USAF)
TRACES	Training Requirement and Cost Evaluation System (USMC)
TRADEVMAN	Training Development Manual (USN)
TRADOC	Training and Doctrine Command (USA)
TRITRAFAC	Triton Training Facility (USN)
TRM	Training Resources Model (USN)
TTC	Technical Training Center (USAF)
TWSEAS	Tactical Warfare Simulation, Evaluation and Analysis System (USMC)
URR	Unit Readiness Report (All)
USR	Unit Status Report (All)
USACC	U.S. Army Communications Command (USA)
USAREC	U.S. Army Recruiting Command (USA)
USAREUR	U.S. Army Europe (USA)
VMA	Marine Attack Squadron (USMC)
VMFA	Marine Fighter Attack Squadron (USMC)

WES	Wing Engineer Squadron (USMC)
WISM	Wing Instructional System Manager (USAF)
WSTEA	Weapons Systems Training Effectiveness Analysis (USA)
WTS	Wing Transport Squadron (USMC)

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